

THE UNIVERSITY OF OKLAHOMA

EARTH & ENERGY

FALL 2012

**FIVE WEEKS
IN THE FIELD**

**NEWEST ALUMNI
LEAVING LEGACY**

**SHARING
A PASSION
FOR GEOLOGY**

**A CULTURAL
IMMERSION**

**FACILITATING
PROBLEM-SOLVING**

**HANDS-ON
EDUCATION**

MEWBOURNE
COLLEGE OF EARTH&ENERGY
THE UNIVERSITY OF OKLAHOMA



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students at the
Bartell Field Camp
near Cañon City, Colo.*



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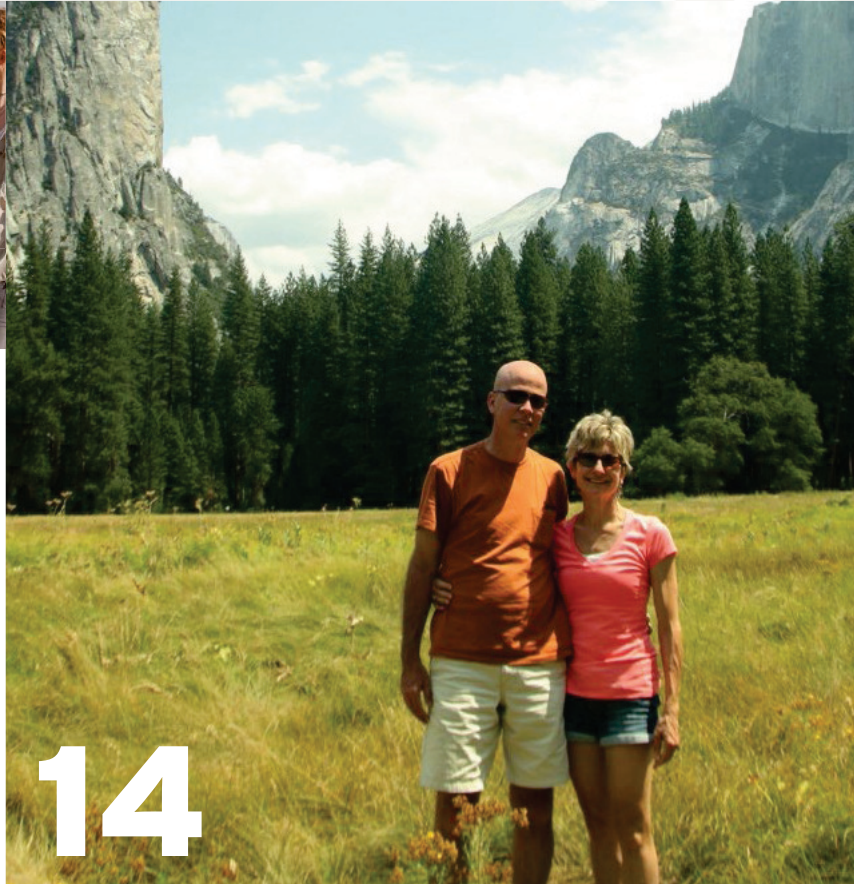
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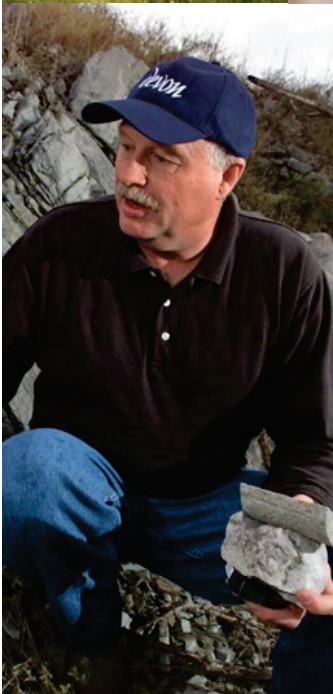
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I TRUST THAT YOU WILL ENJOY THIS EDITION OF *EARTH & ENERGY MAGAZINE*, WHICH UPDATES YOU ON ACTIVITIES OF SOME OF OUR FACULTY, HIGHLIGHTS THE CONTINUED STRONG SUPPORT WE ARE RECEIVING FROM OUR MANY CONSTITUENTS AND, MOST IMPORTANT, PROVIDES INSIGHTS INTO THE ACCOMPLISHMENTS OF OUR STUDENTS.

The theme of the previous issue of *Earth & Energy* was “The First Five Years,” and it documented the impressive gains that we have made in the college with your support. These gains included key faculty additions, significant facility improvements and other program improvements as we worked to meet the needs of our students during a time of rapid enrollment increases. There also has been a focus on increased student scholarships and fellowships during the first five years, as we work to hold down student costs.

As we enter into this next phase of the Mewbourne College of Earth and Energy, we continue to work to meet the needs of our faculty and staff with the ultimate objective of providing the best possible educational experience for our students. Over the past couple of years, we have seen even stronger interest in geology, geophysics and petroleum engineering, such that our enrollments continue to increase to the point that we are now near historical records for the college. I am gratified by the response of our faculty and staff, and in particular the support of our many constituents that has allowed us to respond to the challenges of such large enrollments. Our faculty have “stepped up to the plate” with their teaching efforts and you have continued to provide impressive support to meet the needs for such educational resources as classroom and lab expansion and other instructional spaces, equipment and materials. This issue of *Earth & Energy Magazine* highlights some of the activities and accomplishments of our faculty, staff and students, while also documenting some of the individual and corporate support that makes this all possible.

As with past communications, I can confidently state that as a result of these many efforts, our students continue to excel. We continue to experience strong recruitment of our graduates by a broad range of companies, and many of our graduates also are successfully pursuing graduate education and careers in academia.

We have built a strong foundation for this college, and with your support I am confident we will be able to build on this foundation and continue to move the college forward in the area of energy and earth sciences education. I offer my sincere thanks on behalf of our faculty, staff and students for your continued interest in the Mewbourne College of Earth and Energy and the University of Oklahoma.

Larry R. Grillot
Dean and Lester A. Day Family Chair

PRANTER TO JOIN FACULTY IN JUNE 2013

An expert in reservoir characterization and modeling and sedimentary and petroleum geology with more than two decades of experience is set to join the Mewbourne College faculty June 1, 2013.

Matt Pranter will hold the titles of professor of geology and geophysics and Lew and Myra Ward Chair in Reservoir Characterization in the ConocoPhillips School of Geology and Geophysics. He currently is associate professor of geological sciences and director of the Reservoir Characterization and Modeling Laboratory at the University of Colorado at Boulder. Prior to joining CU in 2001, he worked for ExxonMobil Upstream Research Co. and Conoco Inc.

Pranter's applied research concentrates on sedimentary and reservoir geology and examines how

characteristics of sedimentary rocks impact heterogeneity in conventional and unconventional reservoirs.

He currently is investigating the stratigraphic variability of sandstone-body types (architectural elements), dimensions and associated



connectivity of fluvial and shallow-marine deposits that form "tight-gas" sandstone reservoirs with a focus on Cretaceous formations in

the Rocky Mountain region. Pranter also is interested in pore-system characteristics of "tight" formations.

He holds bachelor of science degrees in geology and geological engineering from Oklahoma State University and Colorado School of

Mines, respectively, a master's degree in geology from Baylor University, and a doctorate in geology from Colorado School of Mines.

Pranter is a member of American Association of Petroleum Geologists, Society for Sedimentary Geology, Society of Economic Geologists, Geological Society of America, European Association of Geoscientists and Engineers, and Rocky Mountain Association of Geologists. He serves as associate editor of the *AAPG Bulletin*; has been a session co-chair, short-course instructor and field-trip leader at AAPG/SEPM annual conventions; and has served on the AAPG Reservoir Development, Future of Earth Scientists, Distinguished Lecturer and Grants-in-Aid committees.

He has authored or co-authored numerous articles, book chapters and field trip guidebooks and served as sole or co-principal investigator on research projects supported by both private industry and the federal government.

TWO-TIME ALUMNUS RETURNS TO TEACH

Two-time Mewbourne College alumnus Jamie Rich joined the college's faculty this fall as assistant professor of geophysics in the ConocoPhillips School of Geology and Geophysics. Prior to returning to his *alma mater*, Rich was a geophysicist at Oklahoma City-based Devon Energy Corp. for six years, working on the Barnett Shale, Granite Wash and Permian Basin, as well as various projects as part of Devon's technical services group.

His current interest focuses on geophysics of unconventional plays,



including micro-seismic monitoring.

As an adjunct lecturer in fall 2011, Rich developed and taught the upper-division seismic

exploration course in CPSGG that covered the applied seismic exploration method, including wave theory, acquisition, processing and interpretation. His previous teaching experience includes five years at Oklahoma State University, where as an assistant visiting professor he taught seismic interpretation.

Rich earned master of science and doctoral degrees in geophysics from OU in 2003 and 2006, respectively. His graduate work focused on shallow geophysical imaging and wave propagation in inhomogeneous media. He received a bachelor's degree in applied physics and anthropology from Indiana University of Pennsylvania.

Rich is a member of the Society of Exploration Geophysicists and Society of Petroleum Engineers. He served on the organizing committees for the September 2012 SPG/SEG Injection Induced Seismicity Conference and the 2010 SPE Unconventional Gas Conference.

BP ENGINEER JOINS FACULTY

Xingru Wu joined the MPGE faculty as an associate professor this fall. The former BP America Inc. reservoir engineer has an interest in the physics of multiphase flow in porous media and enhanced hydrocarbon recovery. His research focuses on hydrocarbon phase behavior, tracer technology, numerical modeling and simulation, enhanced oil recovery, reservoir characterization and geothermal recovery.

During his seven years at BP, Wu's projects included studying real-time surveillance data in Gulf of Mexico asset development for producers and water injectors; managing fluid sampling, characterization using equation of state, and flow assurance



in deep-water production; developing tools for skin monitoring, tidal analysis and rate allocation; managing the reserve progression in the company's Overthrust assets in Wyoming; validating the implementation of in-house chemical flooding models in VIP® reservoir simulation technology; and managing "Interpretation of Interwell Tracer Using Method of Moment," a project funded by the BP Innovation Board.

From 1997 to 2000, he served as a reservoir and production engineer for China National Offshore Oil

Co., where he was responsible for pressure transient analysis, production forecast and fluid analysis for the Pinghu Oil & Gas Field.

Wu holds a bachelor's degree in petroleum engineering from the University of Petroleum (East China), master's degree in petroleum engineering from the University of Alaska Fairbanks and doctorate in petroleum engineering from The University of Texas at Austin.

A member of the Society of Petroleum Engineers, he is a technical reviewer for *SPE Reservoir Evaluation & Engineering*, *Journal of Canadian Petroleum Technology*, *International Journal of Mass and Heat Transfer*, *Journal of Natural Gas Science & Engineering*, *Journal of Petroleum Science & Engineering* and *Advances in Water Resource*.

OU ALUMNUS GHASSEMI NEW MCCASLAND CHAIR

Ahmad Ghassemi, the new McCasland Chair in Petroleum Engineering, joins the faculty from Texas A&M University, where he was a rock mechanics professor in the Harold Vance Department of Petroleum Engineering for the past five years. He previously was a professor in the Department of Geology and Geological Engineering at the University of North Dakota.

Ghassemi earned bachelor's and doctoral degrees in geological engineering from OU. He also holds a master's degree in geomechanics from the University of Minnesota and a master's degree in engineering geology from South Dakota School of Mines.

Ghassemi specializes in geomechanics for development of unconventional petroleum and



geothermal reservoirs. For the past 20 years, his research has focused on high-temperature reservoir rock mechanics and hydraulic fracturing with an emphasis on numerical modeling of thermo-poroelastic effects, induced seismicity and the impact of rock heterogeneity on stimulated volume.

Currently, he is involved in experimental analysis and numerical modeling of fracture network generation in gas shale and geothermal reservoirs by hydraulic stimulation. Other research interests and activity include reactive fluid flow in fractures, constitutive modeling for chemically active rocks,

geologic-scale rock mechanics and caldera collapse.

For the past several years, Ghassemi has led the largest reservoir rock mechanics group in the United States, with up to 20 graduate students and two post-docs, all supported by research funds from federal agencies and industry.

In addition, he serves as editor in chief of *Geothermics*, an international journal for geothermal research. He has served on several national panels dealing with the challenges of hydraulic fracturing, CO₂ sequestration and enhanced geothermal systems development.

Ghassemi's teaching interests reflect his diverse background, which includes expertise in rock mechanics, petroleum engineering, numerical modeling and geology. He has taught undergraduate and graduate courses in rock mechanics, petroleum engineering, geology and applied mechanics of porous media.

ADJUNCTS BRING INDUSTRY EXPERTISE

The Mewbourne School of Petroleum and Geological Engineering added three adjunct faculty this fall:

Keith Thomas, oil, gas and environmental law

Thomas is an assistant general counsel in the Office of General Counsel of the Oklahoma Corporation Commission, where he is the lead enforcement attorney on pollution abatement and underground injection control matters and enforcement attorney for all oil and gas matters in the southeast quarter of Oklahoma. He spends most of his time working with the commission's technical and field personnel solving problems operators encounter.

Thomas was involved in the operation of a family-owned oil field service company for many years; his oil field experience involved domestic and international oil and natural gas exploration. He also has worked for the Interstate Oil and Gas Compact Commission, where he authored or co-authored publications on the regulation of oil and natural gas. Thomas holds a *juris doctorate* from the University of Oklahoma College of Law.



Janette Wallis, technical communications

Wallis is a biologist whose expertise focuses on primate



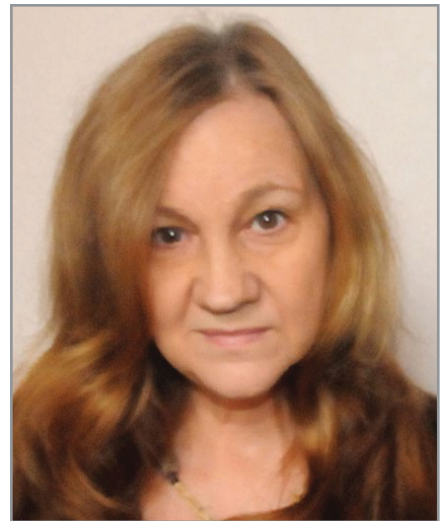
Keith Thomas

conservation and African environmental concerns. She serves as vice president of the Conservation of the International Primatological Society. Wallis is a triple OU graduate, with a bachelor's degree in psychology and zoology and a combined master's and doctoral degree in zoology, psychology and anthropology.

Throughout her career, she has worked closely with students to help prepare them to work in a professional setting.

Zhen Zhu, natural gas finance

Zhu is Mike Metzger Professor of Economics and Barnabas Fellow at the University of Central Oklahoma, where he served as chairman of the Department of Economics and International Business from 2007 to 2011. He also is an economist with Oklahoma City-based Guernsey, an engineering, architectural and consulting firm.



Janette Wallis



Zhen Zhu

Zhu has published in the area of energy economics and finance, in particular, natural gas. His work has appeared in such publications as the *Energy Journal*, *Energy Economics*, *Journal of Futures Markets*, *Review of Futures Market*, *Journal of Economics and Management Strategy*. He also has provided expert testimony concerning natural gas and electricity market issues before several state public service commissions. ■

RONNIE IRANI 2012-2013 CHAIRMAN, BOARD OF VISITORS

MEWBOURNE COLLEGE OF EARTH AND ENERGY



Ronnie Irani came to Norman from his native India in 1977 to study at the University of Oklahoma. He has been in Oklahoma ever since.

Today, the new chairman of the Mewbourne College Board of Visitors is president and chief executive officer of RKI Exploration & Production LLC, headquartered in Oklahoma City. His more than 33 years in the oil and gas business also has included serving in senior positions at Dominion Resources Inc.'s oil and gas division, Louis Dreyfus Natural Gas Corp. and Woods Petroleum Corp.

It began rather unexpectedly.

"When I came to Norman I stayed for a short while with my older brother, Barry, who was working full time as a petroleum engineer. To pass time I would go to Barry's office with him on weekends," Irani recalls. "It was fascinating to see the petroleum industry from that perspective and I discovered I really liked the whole process."

And with that, his career began to fall into place. With a bachelor's degree in chemistry from the University of Bombay, Irani immersed himself in the

engineering program at OU, where he earned another bachelor's degree in 1980, this one in petroleum engineering. He acquired a reservoir engineering internship at Woods Petroleum Corp. his senior year and was offered a full-time job there upon graduating. He moved up in the company over the next decade and stayed until Woods was sold in late 1990.

In early 1991, Irani, who also holds a master's degree in petroleum engineering from OU and an MBA from Oklahoma City University, joined the then newly formed Oklahoma City-based Louis Dreyfus Natural Gas Corp. "We built Louis Dreyfus Natural Gas from a roughly \$50 million valuation to \$ 2.3 billion when we sold it to Dominion in 2001," he says.

After the sale, Dominion asked him to stay and run the office, which became the company's oil and gas head office for the western half of the United States. "The budget for the Oklahoma City office was around \$600 million a year with net daily production exceeding 450 million cubic feet per day. Our division had more than 350 employees and drilled 650 to 700 wells a year," Irani recalls. "It was a sizeable operation."

By April 2005, Irani was thinking about what he wanted to do with the next decade or so of his career. The answer was establishing RKI Exploration & Production, which was registered and ready to conduct business by October of that year. "At that time, the company was just me and my ideas," Irani says. "Some of them came to fruition."

Indeed. In 2011, the Greater Oklahoma City Chamber recognized RKI as the metropolitan area's fastest growing company. The company could have a repeat performance in 2012 as it recently was informed that it once again is among the top three finalists. (Results are to be disclosed in September.)

Currently, the company drills in Oklahoma, Texas, New Mexico and Wyoming and expects to expand its current 60-person workforce an additional 30 percent by the end of this year.

"So many different things had to come together for the company to succeed," Irani explains. "The ideas were good, we built a highly experienced team and we stayed in Oklahoma City. Having a bit of a vision and having walked the path before made it a little easier. Then it was just a matter of getting after it and working hard. It's amazing how things happen when you have a good idea, aren't afraid to take some chances and are willing to work hard."

Irani applies the same principles to his efforts on behalf of OU and the Mewbourne College.

"I have always stayed connected with the university and the college," says Irani, who, in addition to his involvement with the Mewbourne College also has included serving on the advisory boards of OU's International Programs Center, College of International Studies, Michael F. Price College of Business and Sarkeys Energy Center.

CONTINUED ON PAGE 32



RENSINK JOINS BOARD OF VISITORS

A 40-year veteran of the oil and gas industry is the newest member of the Mewbourne College's Board of Visitors.

David Rensink has served in technical, supervisory and executive management positions with such major and independent oil companies as Shell Oil Co., Apache Corp., Total Minatome Corp., Pacific Enterprises Oil Co., C&K Petroleum, Ocean Production Co., Fluor Oil and Gas Corp., and Texas Gas Exploration/CSX Oil and Gas Corp. His work has focused on exploration for and development of oil and gas, primarily on the continental shelf of the Gulf of Mexico. He currently is an oil and gas consultant.

Rensink is a past president of the American Association of Petroleum Geologists, American Institute of Professional Geologists – Texas Section and Houston Geological Society.

He is a member of the American Association of Petroleum Geologists, Society of Exploration Geophysicists, American Institute of Professional Geologists, Association of Environmental and Engineering Geologists, Society of Independent Professional Earth Scientists, Houston Geological Society and Geophysical Society of Houston.

Rensink, who lives in Houston, received a master's degree in geology from OU in 1971.

2012-2013 Board of Visitors Members

Composed of up to 30 active members who are distinguished alumni, corporate leaders and outstanding scientists, the Mewbourne College of Earth and Energy Board of Visitors' membership is representative of the broad scope of earth and energy disciplines in general, and geosciences and petroleum and geological engineering in particular. The board provides advice to the dean and the other members of the College Executive Committee, helps shape and actively promotes the college's vision, goals and objectives, and assists the college's leadership with issues that impact the future of the college.

The fall 2012 meeting is scheduled for Nov. 9 and the spring 2013 meeting is slated for April 19.

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James C. Day
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James A. Gibbs
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MPGE Industry Advisory Board
Sharon Woods Minor, *chairman*
CPSGG Alumni Advisory Council

CHEATWOOD HONORED FOR SERVICE



Dean Larry Grillot (left) presents outgoing Board of Visitors chairman Chris Cheatwood with a commemorative gavel. Ronnie Irani succeeded to chairman at the spring 2012 board meeting.

DIAGNOSING AND MITIGATING BIOCORROSION

As a leading cause of damage to pipelines, storage facilities, separators, tankers and refineries, biocorrosion is a considerable challenge for the energy industry.

Working with leading industry sponsors, scientists at the University of Oklahoma Biocorrosion Center are generating new knowledge and technology to identify biocorrosion and mitigate its consequences in the field.

The multidisciplinary center pulls top researchers from across OU in disciplines ranging from microbiology to engineering and environmental science to chemistry and biochemistry.

The center's first industry sponsor, ConocoPhillips, is represented on the scientific team by a petroleum microbiologist who supervises the company's corrosion management team. Other industry sponsors are Phillips 66, Total and Chesapeake Energy Corp.

"Our research is helping to determine the most valuable tools and approaches for diagnosing, monitoring and mitigating biocorrosion in oil and gas facilities," explains the center's lead scientist, Joseph Suflita, MAPCO Professor of Environmental Quality in the Mewbourne College and director of OU's Institute for Energy and Environment.

Suflita and one of his Biocorrosion Center colleagues, research associate professor Kathleen Duncan, founded the Biocorrosion Center after Alaska's North Slope pipeline spill in 2006.

"We thought it was a reasonable time to learn something about the fundamental process of biocorrosion, which seemed to have a lot of knowledge gaps," Suflita explains. "Since the spill interrupted the delivery of energy to the Lower 48 and affected gas prices, we felt the social responsibility to say, 'OK, what can we learn from this incident to prevent it from occurring again?'"

The two traveled to the North Slope to investigate and gather specimens after crafting a successful grant proposal to the National Science Foundation for support of their research. ConocoPhillips then invited them to collaborate on its pipeline

biocorrosion issues. When the NSF grant ended, ConocoPhillips extended its support of the center and other companies came on board as industry sponsors.

With state-of-the-art molecular, microscopic and analytical chemistry techniques and access

to corroding microbial communities enriched and/or isolated from specimens gathered from North Slope and other industrial facilities, Suflita, Duncan and their colleagues are developing new methods to diagnose and respond to the microbial activities that are at the heart of biocorrosion problems.

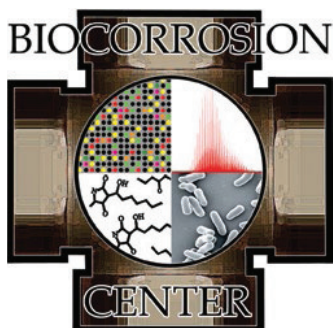
"Biocorrosion is inherent to the oil and gas industry, which has recognized the problem for a long time. But they were looking for carbohydrate-utilizing microorganisms, rather than those that used hydrocarbons as their

primary energy source," Suflita says. "It was just a few years ago, through our work and work by other scientists around the world, that we recognized that microorganisms could metabolize hydrocarbons without oxygen. This fundamental understanding led us to the theory that the anaerobic decomposition of hydrocarbons is the source of energy that microorganisms living on the surfaces of pipelines use to proliferate and actually eat through carbon steel. That's what we are investigating and trying to prevent."

The first step in that process is going into the field to fully understand what Suflita calls "the disease process." Then, using OU's molecular biology facilities, the researchers study the field specimens to diagnose the disease, track its origins and determine how to deal with it.

"By analyzing how to chemically look for various signature components, we can tell not only if hydrocarbon decomposition is going on, but which hydrocarbons are being transformed and how that is occurring," Suflita explains. "These changes serve as early warning signals of corrosiveness and help us better diagnose that problem. Knowing what to look for is half the battle."

While establishing the link between hydrocarbon decay and corrosion is the Center's primary focus, its scientists also are using state-of-the-art mass spectrometry to image the damage of cells on surfaces. "Right now we are getting at ways to use lasers to eventually disrupt an individual bacterial cell so we can analyze its internal guts and learn about it. We think eventually we can map the genome of that particular cell and learn about what that cell was doing just before we sampled it," Suflita reports. "We think the technology will be good enough to get into the pits of damaged metal, target that single cell and ask: What is that one cell doing there at that particular time?"



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The Face of BP

You may recognize Mike Utsler from his numerous campus visits as BP's OU executive sponsor or in his role in BP's latest national advertising campaign.

This familiar-faced 1978 OU petroleum engineering graduate serves as the president of BP's Gulf Coast Restoration Organization, where he leads the ongoing response and restoration activities from the April 20, 2010 Deepwater Horizon oil spill.

On April 24, 2010, Utsler was asked by BP to leave his position as senior VP Alaska to relocate to Louisiana and become the Incident Commander for BP's spill-response efforts. He then became one of the lead BP representatives in the Unified Area Command and, in May 2011, was named president of the Gulf Coast Restoration Organization. The organization maintains offices in Florida, Mississippi, Alabama, Louisiana and Texas, which serve to fulfill BP GCRO's four areas of focus.

"We have four primary areas of focus: 1) to complete the response to the accident through the cleanup and recovery of residual hydrocarbons that have impacted the shoreline; 2) to facilitate and support understanding of the environmental impact of the accident and the recovery; 3) to facilitate and support the economic recovery of the region; and 4) to help rebuild the trust and confidence in the Gulf of Mexico and on the Gulf Coast through our efforts and actions," explains Utsler.

During the first 18 months following the Deepwater Horizon accident, Utsler was based in Louisiana but continuously traveled across the affected region. He currently lives in Houston, but still spends 40 percent of his time traveling the region as well as Washington, D.C., and other locations where his leadership, engagement and communications services are needed.

While he is the most consistent and recognizable in-person presence throughout the Gulf region, Utsler also is BP's spokesperson in a national advertising campaign that launched this past April 30.

In the three ads – one 60-second spot and two 30-second ones – Utsler describes BP's commitment to the recovery and the long-term health of the Gulf Coast.

"The ads reflect BP's approach throughout the response," he says. "It's not just our words that matter. It's our actions and consistency of being there every day – working hard across the Gulf, sharing, communicating and listening – that has given people confidence. The ads stress the actions we have taken, but also outline the actions ahead – the journey that remains and the hard work that still exists."

He says the scale of BP's response to the spill is an opportunity for the oil and gas industry in terms of lessons learned in many areas, including science and technology, but also in

public and government affairs, media relations management, and logistics and crisis management. "In the course of 120 days, 48,000 people, including individuals from 13 universities, 13 oil companies and 80 agencies supported the response," he reports. "More than 6,800 companies provided services, equipment and people. More than 6,500 vessels, from canoes to large deepwater tankers and drill ships, constituted the largest naval armada ever assembled in peace or wartime. One hundred and twenty-five aircraft helped us understand where the oil was moving and assisted with recovery efforts."

This response effort simply was unprecedented. With the ongoing support and participation of so many, the progress is visible as to the Gulf's steady recovery. "The beaches are clean and beautiful and seafood is plentiful," Utsler says. "Everybody is excited about the return of visitors and, importantly, the arrival of new visitors to see the transformation for themselves. Last year set a record for tourism in much of the Gulf Coast, and that trend continues in 2012. That

CONTINUED ON PAGE 10

THE BP-OU CONNECTION



AS BP'S SENIOR EXECUTIVE SPONSOR to the University of Oklahoma, Mike Utsler (B.S. petroleum engineering, 1978) visits the campus at least four times a year as part of his effort to maintain connectivity and manage the long-standing, mutually beneficial relationship between BP and OU. "OU is important to BP, and we support the university's efforts in a number of ways," says Utsler, who serves on the Mewbourne School of Petroleum and Geological Engineering's Industrial Advisory Board. "As a key energy industry sponsor,

we help attract undergraduate students to OU who will become future scientists, engineers, business professionals and leaders in many other discipline areas. We recruit those undergraduates to BP as interns and new professionals to advance BP's business and technological processes and capabilities. We also develop programs that support the university's various graduate curriculums and leverage OU's research activities to help BP solve some of the world's most difficult energy challenges."

CONTINUED FROM PAGE 9

suggests that the restoration and marketing efforts by BP and the state and local communities in the region have been very successful.”

Nonetheless, BP understands that people still have concerns. The company has an ongoing plan to engage in collaborative research with government and academia to understand the near- and long-term impact on the ecosystem of the Gulf and human use in the Gulf. BP already has invested \$600 million toward those

scientific studies and has committed to another \$500 million in funding for 10 years starting in 2010 for independent scientific efforts in the Gulf via an independent entity, The Gulf of Mexico Research Institute. These efforts will be geared toward understanding and advancing ongoing science and creating a better understanding of the Gulf of Mexico ecosystem, its habitats and the impact to human use.

“That’s a total of more than \$1 billion just from BP and doesn’t include other efforts that are under way on their own,” Utsler says. “All of

this will lead to an incredible increase in our understanding of this amazing part of our country – the Gulf of Mexico and Gulf Coast.

“Our industry is no different than almost any other in modern society,” he adds. “Humanity’s desire to fly the skies, drive the roads, sail the seas and land on the moon all were marked with success and tragedy. But we pick ourselves up, we learn, we improve processes and technology and we improve ourselves as human beings. That’s what this company and this industry will continue to do.” ■



(Left to right) Charles Stephenson, Peggy Stephenson, OU President David Boren and Mewbourne College Dean Larry Grillot.

He Blazed a Trail

In fall 2011, the Mewbourne College of Earth and Energy recognized Charles Stephenson (B.S. 1959, petroleum engineering) with its biennial Trailblazer Award.

Established in 2003, the Trailblazer Award honors exceptional individuals in the energy industry who have pioneered operational or scientific practices, procedures and developments for the industry,

enhancing the quality of life for Oklahoma citizens, the nation and the world.

Stephenson founded Vintage Petroleum Inc., from which he retired as chairman of the board, president and CEO. The company was sold in 2006 to Occidental.

Stephenson and his wife, Peggy, are among OU’s most loyal and generous supporters. Their gifts have

helped build the Stephenson Research and Technology Center and the Stephenson Life Sciences Research Center on the Research Campus in Norman and the Peggy and Charles Stephenson Cancer Center at the OU Health Sciences Center in Oklahoma City. The couple also endowed a chair in petroleum engineering. Stephenson is a Sarkeys Energy Center Founder.

Previous Trailblazer Award recipients are John W. Nichols in 2003, the Lloyd Noble Family in 2005, Curtis Mewbourne in 2007 and Lew O. Ward III in 2009. ■

Simulating Shale Gas Production

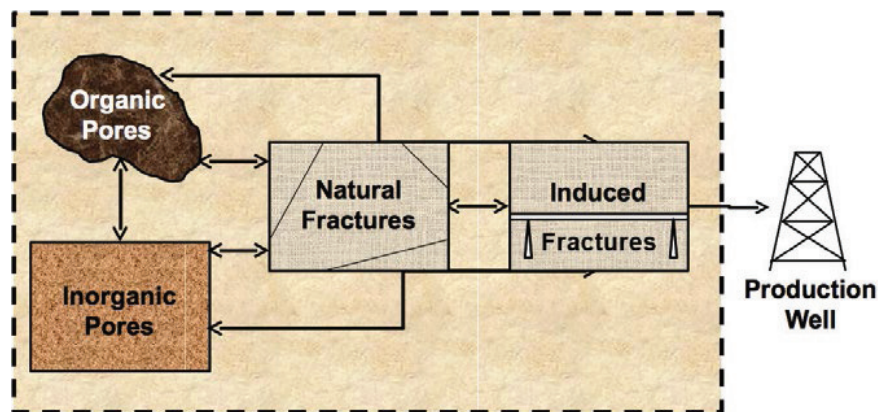
Engineers, geologists and other professionals in the oil and gas industry know all about Darcy's Law, which explains how fluid moves through porous media such as rocks that comprise oil and gas reservoirs. The principal relies on the fact that the amount of flow between two points is directly proportional to the pressure gradient and permeability. This transport equation, along with most other relationships used to characterize production from hydrocarbon reservoirs, can fail when the reservoir is an organic shale. This failure is driven by the size of the reservoir pores, which can be smaller than 10 times the size of a methane molecule.

To answer the question of how to characterize and simulate gas production from shale gas reservoirs, Mewbourne School of Petroleum and Geological Engineering professors Faruk Civan, Deepak Devegowda and Richard Sigal formed the Shale Gas Simulator Consortium. Research conducted during the first half of the three-year project has resulted in a greatly improved understanding of relationships describing unconventional reservoirs that are expected to lead better development and management of shale gas reservoirs.

The group's approach to characterizing the reservoirs starts by recognizing their "quad porosity geometry." Combined with modifications to such standard relationships as Darcy's Law, this geometry is being implemented to describe production from very low permeability reservoirs.

The Shale Gas Reservoir Consortium is supported in part by a three-year, \$1.5 million grant from The Research Partnership to Secure

Energy for America, a nonprofit corporation established to help meet the nation's growing needs for hydrocarbon resources produced from reservoirs in the United States. Eleven companies from the oil and gas industry are industry partners: Shell, BP, EXCO Resources Inc., Weatherford International Ltd., Total, Newfield Exploration Co., Southwestern Energy Co., CMG Technologies, Marathon



Oil Co., SM Energy and Chesapeake Energy Corp.

Although the consortium's research did not start until November 2010, precursor research started much earlier. In 2002, Civan published a paper in which he wondered what was different in very low permeability formations.

"We had been producing from conventional reservoirs for years. But unlike conventional reservoirs, shale formations have extremely low permeability. The thinking at that time was that it was much more difficult to extract and flow fluids from shale formations," he explains. "That's exactly what existing simulators assume because they are using Darcy's Law as a basis: If

permeability is low, production will be less."

During the same time period, Sigal and a student, Bin Qin, were working on a shale reservoir characterization project supported by Devon Energy. "We found that a shale reservoir model built on the then-current understanding of these reservoirs that predicted gas production in a reasonable way could not correctly predict water production. That implied either the geologic model was incorrect or the approximations to the physics of flow that were assumed were wrong," Sigal says. "We since have found both have to be changed."

Despite the challenges expected by reservoirs with very low permeability,

Civan says exploration companies were surprised they could produce at relatively economically rates.

"Although simulators can explain the gas production seen, the assumptions and models necessary to do this do not seem completely satisfactory to many in the industry," he says.

To build a simulator that captured the rapidly increasing understanding of the structure of shale gas reservoirs as well as the laws that govern the behavior of fluids in very small pores, the Shale Gas Simulation Project was conceived. Leveraging the support of the initial six industry partners, Sigal, Devegowda and Civan applied for and were awarded the RPSEA grant. Since

CONTINUED ON PAGE 37



CELEBRATING GENEROSITY

Representatives of Pioneer Natural Resources Co. gathered with OU staff March 29 to recognize Pioneer's generous support of the Mewbourne College's faculty, staff and students. From left: Shane Seals; Micah Reasnor; Mica Feinstein; Kevin Woller; Chris Cheatwood, 2011-2012 chairman of the Mewbourne College Board of Visitors (holding commemorative plaque); R. Douglas Elmore, director and Eberly Professor, ConocoPhillips School of Geology and Geophysics; Larry Grillot, dean of the Mewbourne College; David Epps; David Sanders; and Steven Cobb.

A TAILGATE TRADITION

Since fall 2010, Baker Hughes has sponsored tailgate festivities before every OU home football game for Mewbourne College alumni, students and faculty on the Brian E. and Sandra L. O'Brien Plaza at Sarkeys Energy Center.

"We greatly appreciate and are very happy with the opportunity that Mewbourne College has given us," says Tim Jones, account manager for Baker Hughes. "The location is spectacular and helps fuel the electric atmosphere of the tailgates. The tailgates have afforded us the opportunity to forge new relationships and to help strengthen ones that have already been established."



Alumni, students and faculty enjoy a 2011 tailgate on the Sarkey Energy Center Brian E. and Sandra L. O'Brien Plaza.





Jeffrey D. Hall

Viewing Area Honors Hall

The Oklahoma Petroleum Information Center now has a climate-controlled, well-lighted and well-equipped space where researchers and industry professionals can view and analyze rock cores and select samples for geological and engineering testing.

The Jeffrey D. Hall Core Viewing Area honors retired Devon Energy Corp. executive Jeff Hall, a strong proponent of technology development in the area of unconventional reservoirs who was instrumental in Devon Energy's support of research at OU.

OPIC houses in one location more than 100 miles of core from almost 10,000 Oklahoma wells, samples from some 50,000 wells, well logs, production reports and

other material vital to petroleum exploration and production.

"The Jeffrey D. Hall Core Viewing Area benefits the many companies and individuals who utilize OPIC's extensive core library and will be a resource for students, university researchers and businesses from throughout the Mid-Continent region well into the future," says Mewbourne College Dean Larry Grillot.

Hall joined Devon Energy in 1989 as manager of exploration and exploitation, a position he held until his retirement in December 2011. He was responsible for the company's geological and geophysical activities in north Texas and the Texas panhandle, Oklahoma, Arkansas, Kansas and the Appalachian states. Hall, who holds geosciences degrees from the

State University of New York and the University of Arkansas, previously served as a geological specialist for Mesa Petroleum Co. and Tenneco Oil Co.

Hall is a member of the American Association of Petroleum Geologists, Canadian Society of Petroleum Geologists, Oklahoma City Geological Society, Tulsa Geological Society and Ardmore Geological Society. He served as chairman of the U.S. Department of Energy's RPSEA Unconventional Resources Technical Advisory Committee and currently serves on the leadership committee of the Oklahoma City Explorationists Group and as vice chairman of the University of Arkansas Department of Geosciences External Advisory Board.

A dedication of the core viewing area is planned for later this fall. ■

Sharing a Passion for Geology

Careers and family have brought joy, satisfaction and challenges to Brandt Professor Gerilyn "Lynn" Soreghan and assistant professor Michael Soreghan. The couple, who met as undergraduates at the University of California Los Angeles and married as doctoral students at the University of Arizona, joined the faculty of what now is the ConocoPhillips School of Geology and Geophysics in 1996.

E&E: How did the two of you meet?

LS: We were both geology undergraduates at UCLA. Like many geology departments, the department there was very close-knit, largely because we went on department field trips. In that environment, you really get to know people and lots of camaraderie develops. Mike was a year ahead of me, so we weren't necessarily in the same classes. But we met and became friends and eventually started dating.

E&E: What happened as you got closer to graduation?

LS: We were serious enough that we were looking at some of the same graduate schools. I had my eye on studying with a particular professor at the University of Arizona, so I wanted to go there. Mike wanted to go to Indiana University. Some schools allow you to directly enter the Ph.D. program, which Arizona did, so I went straight into the Ph.D. program, while Mike went into the master's program at IU. So we had a long-distance relationship for two years while Mike got his master's degree. We had gotten serious enough that we decided either Mike would come to Arizona or I would go to



IU. It made more sense for him to come to U of A after completing his master's. He's given up a lot for me over the years.

MS: U of A is a very good school. I was lucky to have gotten in. It really worked out well.

LS: It really worked out well in the sense that it got him to Africa, which is his big love now.

MS: A new faculty member arrived at Arizona that year and he was anxious to get started. He had a new project in East Africa and was looking for Ph.D. students. I hadn't really considered that as a project, but when he offered it to me, I thought, "Well, that's kind of exciting." So we went for it. I've continued that research over the years and consider it one of my two main research areas. The subject matter is trying to understand sedimentology in rift lakes. East Africa is a rift, and there are several large lakes there, so I've worked on several of them. My Ph.D. was in Tanganyika, which is probably

my most focused area. I've been to East Africa 10 or 12 times and am going back this year.

E&E: When did you two marry?

LS: We married in 1990. Mike was two years into the doctoral program and I was three years into it.

E&E: So you've been married now for more than 20 years and have three children.

LS: Emily is 17, Anastasia (Anna) is 13 and Nicholas is 11.

E&E: Where did your careers take you after graduate school?

MS: Lynn finished her Ph.D. in fall 1992. I was halfway through mine and was going to go back to Africa for a three-month stint to do research. So we decided her joining me there would be her big celebration. My adviser was very kind and said, "If you can get her over there she can stay as part of the research group and hang out." So we put the plane ticket on a credit card and she flew with me to Africa. She spent about a month there and then returned to the States to begin working at Amoco in Houston. When I came back from Africa in the beginning of 1993, I went back and forth a lot between Tucson and Houston that whole year because I had to finish a lot of field work in Arizona. In addition to my East Africa research, I also was working on a project in Arizona.

LS: He knew Interstate 10 pretty well by then.

MS: I finished my Ph.D. in mid-1994. We weren't clear about what to do. It was a very poor time for the oil and gas industry so looking for a job in Houston was difficult, but Lynn had her job at Amoco so I took a job at Houston Community College for fall 1994. Late in the fall, I had an opportunity to do a post-doc at the University of Miami on the East Africa lakes.

LS: It was such a great opportunity for him. He would get to go to Malawi and do the seismic work he enjoys. I'm sure he would have said yes in a heartbeat without the complication of a significant other. We discussed it and decided, "We can do this. We've done this long-distance thing before." Within the same week he accepted the post-doc, I found out I was expecting Emily. Mike moved to Miami. I had a very uneventful pregnancy and worked until the day before she was born. We were very fortunate.

MS: When I arrived in Miami, I didn't have a place to stay because I literally had a plane ticket to Africa within the week. I was in Africa for six or eight weeks. And this was pre-Internet and pre-email. It was a little scary being so far away while she was pregnant with our first child, but she did well. I got back to Houston a week before Emily was born. In the midst of all that, Lynn already had applied for the job at OU. She interviewed in spring 1995, when I was still in Africa. By the time I was heading back to Houston, we knew we were going to be moving here.

LS: OU asked, "Can you start in August [1995]?" And I said, "No, I can't start in August ... I'm having a baby. I'll have to start in January."

E&E: What were your positions at OU?

LS: I got a tenure-track assistant professor position.

MS: The job announcement [for Lynn's position] said OU was sensitive to dual-career couples but at that time it was still pretty early in terms of that policy and they didn't quite know how it was going to work. I came on as a half-time appointment as a research associate and for the first few years was responsible for coordinating the introduction to geology labs. I still had time to do my research and get my own papers out. I was half-time for about four years,



then went to a nine-month research associate position. Sometime in the 2004-2006 time frame, it was switched over to a full-time, term-limit faculty position. So I'm faculty in every sense except tenure.

E&E: How do your research areas intersect?

LS: Our areas are really close. We're both sedimentary geologists in the most basic level.

MS: We merged toward each other because we realized there are some similarities. I'm looking at East Africa and these lakes are sitting on the equator and I'm trying to understand past climate from these lakes. She's looking at some very old rocks deposited on the equator many years ago and trying to understand past climate from them. So there's a similarity there. We're both asking "How did climate change near the equator happen?"

LS: There are strange similarities between the last couple million years, which is Mike's time period, and 300 million years ago, which is my time period. Both time periods are characterized by "icehouse" conditions – large ice sheets present on the planet – and both of our field areas are in the tropics, either modern tropics (Mike) or paleo-tropics (me).

MS: We collaborate quite a lot on research, writing grants and papers together. It's difficult for both of us to go to Africa, so that's been my little secondary research area and I've tried to keep that.

LS: He almost had to shut it down for a bit when the kids were really little. He had several opportunities to go to Africa when I was trying to get tenure, so I would have been alone essentially for six weeks during the summer with the kids. He gave up a lot of chances to go during those early years. Now that they're older, it's so much easier in many ways. My geographical area is the western United States. I've worked the most in the Four Corners [where New Mexico, Arizona, Colorado and Utah meet]. Focusing on the time period of 300 million years ago has also taken me to other places to look at similar rocks. I've conducted field work in Japan, Canada and Antarctica.

MS: And she has a new grant to go to all kinds of cool places to look at sediments.

LS: This past summer, I took a couple of OU students to France. We have a project in which we're studying the red rocks here in Oklahoma. The area of France we went to has similar red rocks and low countryside. One of

CONTINUED ON PAGE 37

Investigating Casing and Cement Properties

EFFECT OF H_2S AND CO_2 IN HPHT WELLS ON TUBULARS AND CEMENT

Well cementing and casing operations are critical elements of oil and gas well construction. These operations require cementing of a series of steel casings into the well as the drilled depth increases. The main function of the casing is to support the wellbore and seal off overpressure formations. The cement provides a hydraulic seal to isolate different fluid-bearing zones of the rock formation from one another and from the surface. Moreover, it protects the casing from corrosive fluids. Properly placed cement must effectively isolate different formation zones and prevent casing failure resulting from corrosion. However, cement itself is vulnerable to acid attack and a harsh downhole environment.

To fulfill these requirements, cement has to maintain its properties under high-pressure high-temperature (HPHT) conditions containing formation fluid saturated with acidic gases such as carbon dioxide and hydrogen sulfide. Cement and casing failures can result in significant economic, human or environmental losses.

In oil field applications, cement should meet a wide range of design requirements, including resistance to chemical attack, superior sealing and

bonding properties, thermal stability and mechanical integrating. Cement exposed to an acidic environment will quickly degrade and lose its desired characteristics. The degradation process is complex and not well understood. The mechanisms of cement degradation appear to be different between carbon dioxide and hydrogen sulfide exposure.

Severe acid attack results in casing and tubular failure, which may lead to uncontrolled flow of the formation fluid to the surface or other formations. The selection of casing and tubular materials must be based on criteria such as resistant to crack initiation, corrosion and mechanical degradation in a harsh environment that has high concentrations of H_2S and CO_2 with water saturation.

Very limited studies have been conducted to investigate corrosion and degradation behavior of cement and casing exposed to an acidic environment under HPHT conditions. Published data on degradation mechanisms of cement and casing exposed to H_2S and CO_2 environments is very scarce. More studies are needed to better understand the deterioration mechanisms and develop new solutions that prolong the service



*Ramadan Ahmed,
assistant professor,
Mewbourne School
of Petroleum and
Geological Engineering*

lives of well cement and casing.

Recently, Ramadan Ahmed and his co-workers at the University of Oklahoma, Subhash Shah and Samuel Osisanya, have obtained a three-year research contract from the Bureau of Safety and Environmental Enforcement. The contract totaling \$1,158,373 has been signed between OU and BSEE to investigate casing and cement properties that are affected by exposure to downhole environments containing acidic gases, examine the performance of these materials to properly function in these environments, and provide suggestions and recommendations to ensure long-term integrity of the well. ■

Fulfilling the OGS Mission

In the proud tradition of its more than 100-year history, the Oklahoma Geological Survey continues to provide valuable information and training to ensure that Oklahoma gets the most out of its natural resources while at the same time giving back to the environment.

OGS projects include studying the state's hydrocarbon and mineral resources and sharing the findings through publications and workshops; examining non-fuel minerals, coal and coal-bed methane resources, earthquakes and other natural hazards and geological issues; conducting mapping programs; presenting programs for educational and civic organizations; and operating the statewide seismograph network and OPIC – the Oklahoma Petroleum Information Center, which maintains an extensive collection of cores, samples, well logs, scout tickets, completion reports and related data on petroleum activity in the state (see p. 13 for more on OPIC's Jeffrey D. Hall Core Viewing Area).

These researchers are helping OGS achieve those goals:

Geologist **JULIE CHANG** is involved in field mapping for the



Julie Chang

STATEMAP program, a cooperative effort between the U.S. Geological Survey and state geological surveys to develop a geologic framework in areas determined to be of important economic, social or scientific interest to individual states. Chang received her B.S. degree from Montana State University in 2000, M.S. degree from the University of Arizona in 2002 and Ph.D. from the University of Texas at El Paso in 2006. Before coming to OGS in 2008, she did post-doc work at Cornell University and Montana State University.

Within six months of his birth in Kemmerer, Wyo., **KEVIN CRAIN** began travelling extensively



Kevin Crain

throughout the United States with his seismic and Cadastral surveyor family. Since then, he has worked in geothermal, minerals and petroleum exploration using electrical and potential-fields methods throughout the world. Crain also has experience in the research, development and manufacturing of non-destructive testing instruments for concrete and pavements. A graduate of the New Mexico Institute of Mining and Technology (B.S. geophysics) and The University of Texas at El Paso (M.S. and Ph.D. geophysics), the OGS research scientist develops 3D geology interpretation techniques applied to forward and inverse methods for gravity modeling.

When an earthquake occurs in Oklahoma or elsewhere, media turn to OGS research seismologist **AUSTIN HOLLAND** for data and explanation. Holland has been with OGS since 2010. He is completing a Ph.D. at the University of Arizona, where his primary focus was on measuring deformation of the Earth



Austin Holland

using high-precision GPS. Holland received an M.S. degree in geophysics from the University of Texas at El Paso and a B. S. degree in geology from the University of Idaho.

He worked at the Department of Energy's Idaho National Laboratory for 12 years in the seismic monitoring program.

VIKRAM JAYARAM's research interests include 3D geophysical models for crustal imaging, multi-



Vikram Jayaram

dimensional signal and image processing, time-frequency analysis, pattern recognition and statistical signal models in reservoir characterization. Prior to joining the University

of Oklahoma, Jayaram was a postdoctoral fellow in computational radio-nuclide imaging at The University of Texas M.D. Anderson Cancer Center in Houston. He received master's and doctoral degrees in electrical engineering from the University of Texas at El Paso. Jayaram is a member of the IEEE Signal Processing Society, American Geophysical Union and Society of Exploration Geophysics.

KYLE MURRAY, who joined OGS in November 2011, earned a M.S. degree in hydrogeology from Wright State University in 1997 and a Ph.D. in geological engineering from Colorado School of Mines in 2003. His research normally examines regional-scale hydrogeologic problems and uses GIS as one of the primary tools for data integration and analyses. One of Murray's goals is to help make OGS and



Kyle Murray

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A LIBRARY ON THE MAP

Jody Foote considers herself very lucky to be the librarian at the Laurence S. Youngblood Energy Library in Sarkeys Energy Center.

One of five University of Oklahoma branch libraries, the Youngblood Library was created in 1989 with a gift to OU from Loyce Youngblood honoring the memory of her husband, prominent Oklahoma City oilman Laurence S. Youngblood.

The beauty of the facility – with its fossil-containing limestone walls, quartz monzonite floors and museum-quality fossil and mineral specimens – is matched by its comprehensive collection of geology books, periodicals and maps.

And then there is the state-of-the-art learning technology added during a 12-week renovation in summer 2010, made possible by another donation from Loyce Youngblood honoring her late husband.



Jody Foote

"It had been 20 years since the library was created, so it was due for a facelift," says Foote, who holds the Mr. & Mrs. Laurence S. Youngblood Chair for Energy Librarian. "We closed the week after final exams in May and reopened the first day of classes in the fall. Everything except the collection itself was replaced: carpet, woodwork, furniture and equipment. It was a very ambitious project."

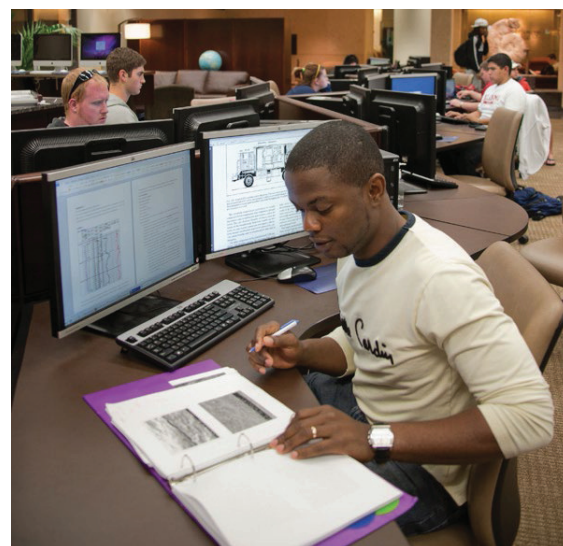
The renovation created an information commons area with 11 dual-screen personal computers, eight Mac computers and two media:scape

collaborative learning technology centers. A refurbished group study room now has videoconferencing equipment.

All of these improvements complement the rich collection of energy and geoscience materials that began in the late 1800s with the personal library of Charles N. Gould, the first geologist on the OU faculty and first director of the Oklahoma Geological Survey. Today, the materials on geology, geochemistry, geophysics, mineralogy, paleontology and petroleum geology incorporate print and electronic books and journals, field trip guidebooks, government publications, maps and theses. The more than 100,000 bound volumes include a substantial collection of serials from the U.S. Geological Survey, the 50 state geological surveys and many international geological surveys.

The library's more than 100,000 flat maps housed in 750 map cases comprise 50,000 topographic maps produced by the USGS, plus domestic oil and gas maps, geological maps, stratigraphic maps, structural maps and international maps. Another 13 cabinets contain folded maps, primarily from the U.S.G.S. and state and international geological surveys. Students and faculty, as well as petroleum engineers and geologists in industry, come to use the maps, including those that are incorporated as part of master's theses and doctoral dissertations.

"The Youngblood Library is very young, but our collection is very well-regarded," says Foote, a former Fulbright Scholar who has been a librarian at the U.S. House of Representatives Library and Oklahoma State Capitol Law Library as well as



A 12-week renovation of the Laurence S. Youngblood Energy Library in Sarkeys Energy Center included the addition of 11 dual-screen personal computers, eight Mac computers and two media:scape collaborative learning technology centers.

Cornell University, Southern Illinois University and Arizona State University. "It generally is considered one of the top five geology libraries in the country."

Since the renovation, she says, the library has experienced a significant bump in the number of visitors. "During calendar year 2011, 108,404 people came to the library, compared to 80,764 in calendar year 2009. During the 2011-12 academic year, we loaned six times as many items to other libraries as we borrowed from them, which reflects the comprehensiveness of our collection," she explains.

That includes the growing electronic format collection. "There are many advantages to purchasing electronic versions of books and periodicals," Foote explains. "Electronic versions enable multiple users to read the same journal article at the same time and users can access the electronic materials 24 hours a day, seven days a week.

"We expect to move even more into the world of technological innovation," she adds. "Our users want it and we want to meet their needs." ■

Convocation 2012



170 STUDENTS EARN DEGREES

The Mewbourne College of Earth and Energy conferred 170 degrees during the 2011-12 academic year:

CONOCOPHILLIPS SCHOOL OF GEOLOGY AND GEOPHYSICS

Bachelor's degrees

Geology	9
Geophysics	6
Petroleum geology	4
Paleontology	1

Master's degrees

Geology	22
Geophysics	5

Doctoral degrees

Geology	5
Geophysics	1

MEWBOURNE COLLEGE OF PETROLEUM AND GEOLOGICAL ENGINEERING

Bachelor's degrees

Petroleum engineering	85
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Master's degrees

Petroleum engineering	25
Natural gas engineering and management	4
Geological engineering	1

Doctoral degrees

Petroleum engineering	2
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TOTAL DEGREES CONFERRED 170

LATIN AMERICAN LEADERS

When a team of five graduate students from the ConocoPhillips School of Geology and Geophysics took first place at the Second Annual American Association of Petroleum Geologists' Imperial Barrel Award Program in 2008, they noticed something curious: While the young yet already prestigious international prospective basin evaluation competition for geoscience graduate students drew contenders from many areas of the world, Latin America was not represented.

Three members of that 2008 team, along with one from the 2009 team, decided to do something about it.

Roderick Perez, Carlos Santacruz and Romina Portas (2008) and Byron Solarte (2009), all Latin Americans themselves, asked AAPG if they could organize the very first IBA Latin America regional competition in 2010.

"We worked from the ground up, finding a location, recruiting sponsors and inviting universities from each country in Latin America to send a team," Perez explains. "We organized every single detail to make this event a success."

And a success it was. The first year began with the Universidad Nacional de Colombia becoming the first Latin American competitor at the international IBA contest. Since then, IBA Latin America has continued to grow, with seven universities participating in 2011 and a dozen in 2012.

"The international IBA competition provides participants with an amazing academic benefit, but it also helps breaks down language, regional and industry barriers and offers a unique networking environment," Perez explains. "We wanted to extend those opportunities to students in Latin America."



The first IBA Latin America regional competition was organized in 2010 by OU graduate students (left to right) Carlos Santacruz, Romina Portas, Byron Solarte and Roderick Perez.

"We believe in the enthusiasm and high level of education of the students in the region," he adds. "We hope the experience of competing in IBA Latin America contributes to growing a new generation of leaders."

THEN AND NOW

The inaugural issue of Earth & Energy published in fall 2007 featured exceptional Mewbourne College students Katie Gunderson and Kenah Nyanat. We caught up with them to see what they have been doing since.

KATIE GUNDERSON THEN ...

A native of Heyburn, Idaho, Gunderson was a dual geology/chemistry major. As an undergraduate, she was one of only three students nationwide to be named both a Udall Scholar and Goldwater Scholar in 2007. The Udall Scholarship recognizes undergraduates who demonstrate a commitment to careers related to the environment or to Native American public policy or health care. The Goldwater Scholarship is awarded to undergraduates who intend to pursue careers in science, math or engineering.

Gunderson's undergraduate research included working with David London, Norman R. Gelpman Professor in Geology and Geophysics, and conducting research in Tanzania and East Africa and at the University of Notre Dame. Her concern for the environment led her to focus on nuclear waste and how uranium interacts with the environment. After completing her undergraduate degree, she planned to pursue a doctoral degree in environmental geochemistry.

AND NOW ...

Following her 2008 graduation from OU with degrees in geology and chemistry, Gunderson was awarded a Gates Cambridge Scholarship to study for a doctorate at the University of Cambridge, United Kingdom, where she has continued to pursue her research interests in nuclear waste disposal. In the Mineral Physics group of the Department of Earth Sciences, her research focuses on understanding the response of phosphate and silicate minerals to radiation damage from alpha-decay events.

Gunderson's research often takes her to Germany, where she is conducting



Kenah Nyanat

the first nuclear magnetic resonance measurements on xenotime samples containing plutonium-238 and 239 at the Institute for Transuranium Elements. She also has traveled to St. Petersburg, Russia, to present her research.

"Outside of my studies, I continue to indulge my passion for outdoor pursuits, most recently by trekking in the Austrian Alps," says Gunderson, who recently married a fellow Cambridge geologist. After she completes her thesis, the couple plans to return to the United States this fall to pursue academic careers.

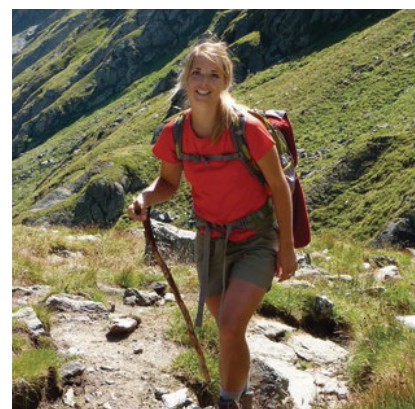
KENAH NYANAT THEN ...

An undergraduate student pursuing a major in petroleum engineering and a minor in geology, Kenah Nyanat, a native of Miri, Malaysia, was the first international president of the University of Oklahoma Student Association and the first OU student to be elected as UOSA student body president for two consecutive years.

Nyanat wanted to obtain an American education in petroleum engineering and chose OU because of its reputation as a great school known for engineering. After earning his degree, his plans included earning a master of business administration degree or graduate degree in natural gas and management and exploring engineering opportunities in economics and the business development side of the oil and gas industry.

AND NOW ...

After graduating from OU in 2008 with a bachelor's degree in petroleum



Katie Gunderson

engineering and a minor in geology, Nyanat joined HighMount Exploration & Production LLC as a field facilities/production engineer in Traverse City, Mich., where he worked the Michigan Basin's Antrim Shale play. Other positions with HighMount have included reservoir engineer in Houston working the Black Warrior Basin's Coal Bed Methane play, drilling engineer in Oklahoma City working the Permian Basin, and operational planning and business development engineer. He currently serves the company as a reservoir engineer in Oklahoma City, again working the Permian Basin.

"In just three years, I have already seen the multifaceted aspects of the upstream business and am looking forward to expanding my knowledge and technical skills," Nyanat reports. In addition to his work at HighMount E&P, he currently is pursuing a master's degree in economics. He also aspires to earn a graduate degree in engineering.

Nyanat's experience as UOSA president motivated him to contribute his leadership talents to other organizations. As vice chairman of programming for the Oklahoma City Section of the Society of Petroleum Engineers' Young Professionals, he is re-establishing monthly technical evening lectures. He also served as co-chairman and communications chairman of SPE-OKC YP's inaugural Young Professionals in Energy Forum, held in July, and is ad-hoc chairman of OU's International Alumni Association's Oklahoma City Club. ■

Five Weeks in the Field

By **Stephanie Cole**, petroleum geology junior



Two new faculty cabins are under construction at the Bartell Field Camp.

Editor's Note: In summer 2011, Stephanie Cole was among the first group of students to attend the five-week field program at the ConocoPhillips School of Geology and Geophysics Bartell Field Camp, located on a 71-acre site about five miles outside Cañon City, Colo. The camp is named in honor of OU geological engineering alumnus J. Denny Bartell and his family, who made the lead gift for the project.

Field camp was an interesting experience for me. I didn't attend the freshman field trip like quite a number of my classmates did. I had been on the regular field trips for various courses that were usually a few days long, but five weeks was a different ball game. I usually just attended lectures and labs and only interacted with classmates on



Stephanie Cole

that level. I wasn't sure what spending every minute with them in the middle of nowhere for five weeks would be like.

I was surprised when I arrived at the newly constructed Bartell camp to find nice cabins, showers with hot water and a dining hall. I was in the Becker Boys cabin with three other girls.

We went into town on Sundays to do our laundry and pick up essentials at Wal-Mart. We made it to the movies once or twice and had a good laugh.

We were out in the field every day collecting data from 8 a.m. to 5 p.m. and in the evenings worked on assignments. We also usually stopped for ICEEs at a minimart on the way back to camp after a long day in the field. Our treat after a long week or at the conclusion of a strenuous project was going to a burger place in Cañon City called Big Burger World.

We went on field trips on Saturdays and got to see some awesome sights and tourist



Guilherme Ngafino

Guilherme "Gee" Ngafino, who graduated this past summer with a bachelor's degree in geology, attended the Bartell Field Camp in June 2011.

"At the field camp, I was able to apply everything I learned in my courses," says the Angola native who has returned to his native country to work for a year before returning to OU to begin his master's program in fall 2013. "I also developed friendships with classmates that I hope will last long after I leave the university."

He advises other students to take advantage of all the camp has to offer. "Enjoy your time there and don't be afraid to have the full experience. I will always value my time at the field camp and know it will be very good for my career."



Omar Alamoudi

For Omar Alamoudi, the summer 2011 Bartell Field Camp experience compressed a full semester of learning into three weeks of intensive field work. He says it will serve him well when he returns this fall to his native Saudi Arabia to work for Saudi Arabian Oil Co.

"The real-world situations we faced, which ranged from working together as a team to adapting data collection methods to variances in the weather, helped lay the groundwork for my career," says Alamoudi, who in spring 2012 received his bachelor's degree in exploration geophysics.

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spots, including the Molly Kathleen Gold Mine in Cripple Creek and Pikes Peak in Colorado Springs. We saw students from many other schools who also were doing their field camps in and around Cañon City.

We were able to put everything we had learned throughout our degree program into use at the field camp: finding our way in the field using maps and compasses, collecting data, figuring out what was going on with the geology, mapping, working in teams, splitting up work, managing our time and multitasking. We got very familiar with the Colorado stratigraphy, especially since we had to look at it, climb on it, break pieces of it, pour acid on it, eat lunch on it and, of course, sometimes take naps on it.

The best day was the final day in the field when we went into the cave/tunnel where past field camp attendees had written on the walls. It was amazing to see writings from decades ago and add our own marks. Of course it was even more amazing to be going home!

A year later, I can't help but smile when I remember my time at the field camp or look at the countless pictures I took. ■

Petroleum and geological engineering graduate student Ekenedilichukwu (Ekene) Okoye (left) receives a student research award from Graduate College Dean T.H. Lee Williams.



GRADUATE STUDENTS TAKE RESEARCH HONORS

TWO MEWBOURNE COLLEGE of Earth and Energy graduate students were recognized for excellence in research at the 2012 Student Research and Performance Day. Ninety-four participants representing 30 campus departments competed in the event held March 2, 2012 at the National Weather Center on the OU Research Campus.

Petroleum and geological engineering graduate student Ekenedilichukwu (Ekene) Okoye captured second place in the Engineering B category for "Modeling the Effects of Shale Mechanical Anisotropy on Hydraulic Fracturing Using Finite Element Method." The project demonstrated that the fracture geometry from hydraulic fracturing in shale is significantly influenced by its mechanical anisotropy. The second-place award carried a \$100 cash prize.

Geology and geophysics graduate student Alsharef Albaghdady won

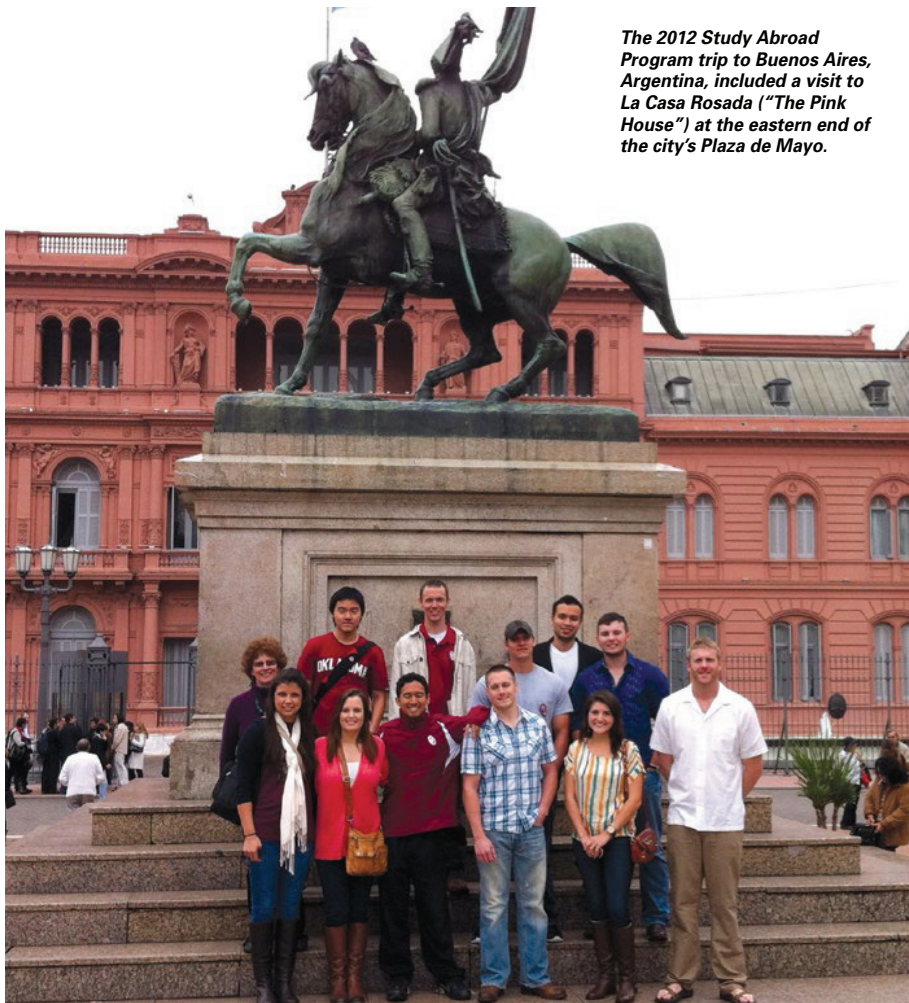
the McNair's Choice Award in Science A, which carries a \$150 award.

The annual Student Research and Performance Day is sponsored by the OU Graduate College, Graduate Student Senate, Graduate Student Ambassadors and the McNair Scholars Program, a federal initiative designed to prepare underrepresented and first-generation undergraduate students for doctoral studies through involvement in research and other scholarly activities.

Because of the high level of student participation in the 2012 Performance Day competition, each category were split into groups A and B. "When students submit abstracts and register for the event, they self-identify themselves by field. We put them on the appropriate list in alphabetical order and then cut the list in half," explains Clay Wesley, liaison for recruitment and engagement in the Graduate College. "This allowed judges to spend more time on each entry." ■

MCEE National Merit Scholars

In spring 2012, 20 National Merit Scholars were enrolled in the Mewbourne College of Earth and Energy. Another six freshman National Merit Scholars who began their OU studies in fall 2012 plan to declare petroleum engineering as their major. National Merit Scholarships honor scholastically talented youth and encourage academic excellence at all levels of education.



The 2012 Study Abroad Program trip to Buenos Aires, Argentina, included a visit to La Casa Rosada ("The Pink House") at the eastern end of the city's Plaza de Mayo.

A Cultural Immersion

For students in the Mewbourne College who cannot devote a semester or summer to study abroad, the college offers an intensive, one-week alternative.

In just two years, 16 petroleum engineering students already have reaped the benefits of expanding their scholarly and cultural horizons by learning and traveling in another country.

"By immersing in a different culture even for a short time, our students gain greater global

awareness, have an enhanced academic experience, develop leadership and language skills and experience personal growth," explains Yoana Walschap, the college's international outreach coordinator and director of the Energy Institute of the Americas, who leads the program.

For the first trip in July 2011, five petroleum engineering students, accompanied by Walschap and associate professor Yucel Akkutlu, linked up with eight faculty and 20 students from the National

University of Colombia, along with three young Colombian industry professionals, at its campus on the banks of the Amazon River.

This past May, Walschap and Akkutlu led a group of 11 petroleum engineering seniors, this time to Buenos Aires, Argentina, where they were joined by 15 students from the Instituto Tecnológico de Buenos Aires and eight young Argentine industry professionals.

"I had a wonderful experience teaching a challenging topic to a diverse classroom, not only nationally but also culturally and academically," said Akkutlu, who taught the elective course, Improved Recovery Techniques, both years. "It was rewarding to be able to go beyond the barriers of language and reach students through the very fundamental concepts of the recovery process."

To give students as broad a cultural experience as possible, the OU group spent time before the course experiencing the gaucho life at a ranch outside Buenos Aires and after the course explored areas in and around Buenos Aires.

"Having never studied abroad before, this experience opened my eyes to an entirely different culture. It was amazing how much I learned about Argentine culture in such a short amount of time," says senior Austin Qualls. "I finished three credit hours in five days and was back in time to start my internship."

"It was really exciting being in a big city like Buenos Aires," adds classmate and fellow traveler Tyler Parsons, also a petroleum engineering senior. "Being able to interact and become friends with students from another country is an experience I will never forget." ■



Kylie Bohanan

Outstanding Senior an All-around Leader

Kylie Bohanan is an all-around leader. During her four years at OU, the 2012 Mewbourne College of Earth and Energy Outstanding Senior ably and enthusiastically served the university (student ambassador for OU's Crimson Club), the college (member of the Dean's Advisory Council and editor of the college's newsletter, *EarthLinks*), her fellow students (president of the petroleum engineering honor society Pi Epsilon Tau and both freshman liaison chair and alumni chair of the OU chapter of the Society of Petroleum Engineers) and her sorority (vice president of finance of Kappa Alpha Theta).

And she found time to volunteer with Special Olympics, Habitat for Humanity and Court Appointed Special Advocates. All of this Bohanan accomplished while maintaining an exemplary academic record.

As a student, Bohanan received eight different scholarships, interned with BP Alaska and Newfield Exploration Co. and was recognized twice by the Mewbourne School of Petroleum and Geological Engineering – first as Outstanding Freshman and two years later as Outstanding Junior.

The spring 2012 petroleum engineering graduate currently works for Houston-based Anadarko Petroleum Corp. ■

2012 OUTSTANDING STUDENTS

MEWBOURNE COLLEGE OF EARTH AND ENERGY OUTSTANDING SENIOR

Kylie Bohanan

CONOCOPHILLIPS SCHOOL OF GEOLOGY AND GEOPHYSICS

*Charles N. Gould Outstanding
Senior Award*

Shelly Wernette

*Alan Witten Outstanding
Senior Award*

Huy Quang Le

*David W. Stearns Outstanding
Senior Award*

Shayda Zahrai

Estwing Hammer Award
Torrey Garrett Tynes

MEWBOURNE SCHOOL OF PETROLEUM AND GEOLOGICAL ENGINEERING

Outstanding Senior Award
Napat Kiatsakdawong

Outstanding Junior Award
Caroline Hawkins

*Outstanding Sophomore
Award*
Carolyn Alford

Facilitating Problem-solving

SLEEPER SPACES ENCOURAGE COLLABORATION

Early in his half-century-plus career in the petroleum industry, W.J. “Jack” Sleeper Jr. recognized the value of learning as much as possible in as many fields of knowledge in the petroleum industry as possible, but also acknowledging that sometimes you have to engage others with different backgrounds to solve a problem.

After his 1955 graduation from OU with a bachelor’s degree in petroleum engineering, Sleeper was hired by Shell Oil Co., where he worked in reservoir engineering, geology and petrophysics and held the titles of project engineer, senior exploitation engineer and senior production geologist. Ten years later, he joined Dallas-based DeGolyer and MacNaughton, a leading international petroleum industry consulting firm, where he rose to the posts of president, chief operating officer and director. He held those positions until his retirement in 1995.

After retiring from D&M, he served on the board of directors of Matador Petroleum Corp. He currently is special adviser to the board of Matador Resources Co.

“I never in my career really wanted to specialize. I wanted to be exposed to all parts of the petroleum industry,” Sleeper recalls. “Even so, there were many instances when a problem wasn’t necessarily being studied by personnel with the right backgrounds to solve it. Solving the problem meant going outside the area of expertise of one group and seeking help from others.”

So when the Mewbourne School of Petroleum and Geological Engineering presented Sleeper and his wife, Tess, with opportunities to



*Sleeper Undergraduate Team Room (top)
and Jack and Tess Sleeper Learning Lab*

establish collaborative study spaces for undergraduates in the school’s new multi-floor home in Sarkeys Energy Center, they knew they wanted to participate.

“It sounded exactly like what I thought was missing when people get so specialized they don’t recognize that the solution to a problem lies with those with a different background,” Sleeper says. “If you can share a problem, you stand a good chance of solving it.”

That’s what happens in the Sleeper Undergraduate Team Room and the Jack and Tess Sleeper Learning Lab.

The team room, located on Sarkeys’ 11th floor, combines state-

of-the-art projectors and screens, interactive Eno touch boards and portable white boards with comfortable seating in a spacious environment designed to facilitate collaboration.

The equally appealing Jack and Tess Sleeper Learning Lab on the 12th floor provides space for small groups of students and faculty to work together on class projects and brainstorm new ideas.

“I’m still learning and still solving problems at Matador,” declares Sleeper, an octogenarian. “These rooms give students a chance to learn from other students who may be taking a different view.”

In addition to the generous support that made the team room and learning lab possible, the Sleepers have given back to the college in another important way. In 2000, they established the Jack and Tess Sleeper Petroleum and Geological Engineering Scholarship.

“We set up the scholarship to aid deserving individuals in getting an education,” explains Sleeper, who

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Newest Alumni Leaving Legacy

The new Leave a Legacy program may be in its infancy, but already it has a bit of a legacy of its own.

A student-led program in the Mewbourne School of Petroleum and Geological Engineering, Leave a Legacy encourages recent or soon-to-be graduates to support a class gift through financial gifts or pledges. Eventually, Leave a Legacy hopes to attain 100 percent participation in each graduating class.

Created in January 2012, the program is off to an impressive start. In less than a year, one of the first two



classes to participate has reached its financial goal, while the other is at 90 percent.

"Our graduates have great jobs, and this program allows them to make a donation to the school that helped get them where they are," explains Tray Black, vice chairman of the school's Industrial Advisory Board, which helped launch the program. "Leave a Legacy creates the framework for the expectation that once students graduate, they aren't completely separated from the school. Their connection and their support should be ongoing for years to come."

"OUR GRADUATES HAVE GREAT JOBS, AND THIS PROGRAM ALLOWS THEM TO MAKE A DONATION TO THE SCHOOL THAT HELPED GET THEM WHERE THEY ARE."

tray black

VICE CHAIRMAN, OF THE MEWBOURNE SCHOOL OF PETROLEUM AND GEOLOGICAL ENGINEERING INDUSTRIAL ADVISORY BOARD

The classes of 2008 and 2012 have set a pretty high bar.

Bryce Ballard (B.S. petroleum engineering, 2008) spearheaded the Class of 2008 effort by enlisting the help of four other members of his graduating class. "We became the fundraising committee and kicked off the campaign, reaching out to the classmates we were closest to," Ballard explains. By early June, the group had reached its goal of \$5,000. With those funds, MPGE has purchased artwork for the halls of its new home on the 11th, 12th and 13th floors of Sarkeys Energy Center.

"We are really happy with the \$5,000 we raised," Ballard says. "Half of those who contributed had never donated to the college before. And corporate matches from employers, including ExxonMobil, Chevron, Anadarko Petroleum and Devon Energy, doubled or tripled the amount of some gifts. That's really important for new graduates."

Not far behind is the Class of 2012, which has raised 90 percent of its \$10,000 target (\$9,028 in cash and pledges) from 57 percent of the graduating class. The funds will go toward the purchase of patio furniture on the Brian E. and Sandra L. O'Brien Plaza at Sarkeys Energy Center.

Black credits the four students – now alumni – who led the campaign for its success. "Kylie Bohanan, Ethan Plunkett, Blake Burget and Jonathan Clark got on board, took ownership and became leaders for the class," he says. "They established the foundation for the Class of 2013. When it comes time for that program to begin a few months from now, those students will be familiar with the concept. Ultimately, freshmen will hear 'Leave a Legacy' and by the time they are seniors they'll know what it is and be ready to give back."

Ballard is buoyed by the Class of 2012 result as well. "The primary objective of the Class of 2008 campaign was to connect with all members of our class and encourage them to stay involved and continue giving," he reports. "But another was to do something cool and be a role model for other classes to give back."

Black says both classes have laid the necessary groundwork for a fruitful, long-term approach to increase alumni involvement and raise funds.

"We consider Leave a Legacy to be a big success," he says. "Two to three years from now, we will have a full-blown program that will be significant." ■



OU petroleum engineering alumnus Steve Pugh, fourth from left, joins his Midstates Petroleum Co. colleagues (including 1989 OU law school alumnus John Foley, far left, the company's corporate counsel) on the podium of the NYSE floor as Midstates concluded its first day of trading as a publicly held company.

On the NYSE Floor

Most people never get to be on the floor of the New York Stock Exchange even once. But Steve Pugh (B.S. petroleum engineering, 1981) has not only been on the floor two times, he has twice stood on the floor's podium for the ceremonial bell ringing that signals the daily opening and closing of the world's largest stock exchange.

The most recent visit for Pugh, executive vice president and chief operating officer of Houston-based Midstates Petroleum Co., was April 20, the company's first day as a NYSE-listed company.

Pugh shared the moment with 12 Midstates colleagues on the podium

and another 25 or so 10 feet below watching from the exchange floor.

As the enormous digital clock in front of him displayed the time as 3:59:45 p.m. EST, the company's co-founder, 91-year-old Robert "Mr. Bob" McDaniel, placed his hand on the button and set off the familiar "ring-ring, ring-ring" of The Closing Bell SM.

At precisely 4 p.m., with the bell still sounding, his son, Midstates co-founder and CEO Steve McDaniel, brought down the closing gavel.

"Being on the podium was great for a lot of reasons," relates Pugh. "I was with many of the men and women I work with. Mr. Bob was in good enough health to appreciate the moment. And when the



The Midstates Petroleum Co. flies amid dozens of U.S. flags atop the NYSE on April 20, 2012.

day opened, our share price was \$13; when trading closed, it was \$15."

Add to that, on the outside of NYSE headquarters, a Midstates flag flew that day among the dozens of U.S. flags that grace the building daily.

"It was a really special day for us," Pugh says. ■

Hard Work and a Positive Attitude

KEN NELSON HAS A SIMPLE MESSAGE ABOUT HOW TO SUCCEED IN THE OIL AND GAS BUSINESS: WORK HARD AT THE JOB YOU HAVE AND KEEP A GOOD ATTITUDE.



Ken Nelson

“Whatever job you’re given, do it to the best of your ability. That will open the next door,” advises Nelson, who currently is General Manager Exploration for Chevron Europe, Eurasia and Middle East Exploration and Production in Chevron’s London office. “If you get too focused on the next job, those doors aren’t going to open for you.”

Clearly, the formula has worked for him. Nelson has spent his entire 34-year career with Chevron, optimizing every opportunity presented to him.

“I’m a good, steady worker. I have done every job Chevron has asked me to do with a good attitude,” he says. “I’ve been content with every job I’ve had and Chevron has treated me very well.”

His work ethic and positive outlook is what led to his London job. In early 2011, as division manager of Exploration and Reservoir Characterization Services in the Chevron Technology Co. in Houston, Nelson was part of a high-level leadership team responsible for managing the company’s global exploration portfolio and identifying opportunities for future exploration.

In his current assignment, which he began in September 2011, Nelson is one of only four exploration general managers who cumulatively cover the world for Chevron. He previously served the company in a variety of professional and management positions in locations

across the western United States and in South America. His first overseas assignment was in Santa Cruz, Bolivia, from 1991 to 1995.

The journey started in his hometown of Oklahoma City.

Not knowing what career path he wanted to pursue, he enrolled in a local junior college, where he took his first geology classes and, he says, “got turned on by earth sciences.”

His junior college professors directed him to OU, where he was awarded an academic scholarship and earned a bachelor’s degree in

early 2000s, Nelson returned to campus often. “When Chevron comes to recruit at OU and other top universities, we’re looking for people who can think critically and solve problems,” he explains. “If we can get topnotch students, we can teach them the industry. We want them to know fundamentals of earth sciences first. When I look back, that’s what I got.”

There’s little question that solid OU education has served him well.

“WHATEVER JOB YOU’RE GIVEN, DO IT TO THE BEST OF YOUR ABILITY. THAT WILL OPEN THE NEXT DOOR. IF YOU GET TOO FOCUSED ON THE NEXT JOB, THOSE DOORS AREN’T GOING TO OPEN FOR YOU.”

ken nelson

geophysics in 1976. He continued his education at Colorado School of Mines, where he earned a master’s degree in geophysics in 1978.

“Without my degree from OU, I never would have gotten into Colorado School of Mines. The people at OU led me to Mines and the people at Mines led me to Chevron,” he says.

As Chevron’s recruiting team leader at OU in the late 1990s and

But Nelson acknowledges the road to London hasn’t always been easy. When he started with Chevron in Denver in 1978, the petroleum industry in the Rocky Mountains was booming. Then oil prices collapsed and companies, including Chevron, dramatically downsized. But Nelson followed his own advice by working hard and staying positive and, with a bit of luck and some good timing, made it through the tough times.

"The oil and gas industry regenerates itself every 10 to 15 years," he explains. "A decade ago, we didn't foresee the new ways of pulling oil out of the ground that are being used today," he says. "Those technologies have regenerated our industry."

Today, as Nelson continues to work hard at the considerable task at hand, he also makes time to visit and enjoy his family at his U.S.-based home in Orlando, Fla., and also take advantage of some of the benefits of living in the world-class city of London. Both of his sons, Glen and Mike, went to a university in the Orlando area. Glen graduated and is a Marine officer based at Camp Lejeune, N.C. Younger son Mike graduated this past August from Full Sail University in Winter Park, Fla., with a degree in recording arts.

Nelson makes no secret of the fact that his successful career at Chevron was enabled by his very supportive family. "They were always willing to move when we needed and also kept a positive attitude through all the difficulties of moving during critical times of middle school and high school," he relates.

Now, from his office in west central London and the residence he shares with his wife, Sunday, in nearby Marylebone, he has easy access to some of the world's finest restaurants, shops and entertainment.

"We act like tourists. We see lots of musicals in the West End. We've toured St. Paul's Cathedral and Westminster Abbey and take walks on the River Thames. Eating is a hobby here. You can spend years finding wonderful restaurants and discovering new foods in London's narrow streets," he says.

Nelson also managed to get a one-day ticket to Hard Rock Calling 2012 and saw Bruce Springsteen and the E Street Band, John Fogerty and Lady Antebellum perform. "At the end of the concert, Springsteen brought out Paul McCartney, who did three numbers with him."

He also "wandered down" to a big concert on the mall in front of Buckingham Palace that was part of the four-day Queen's Diamond Jubilee. And, of course, the recent 2012 Olympic Games occurred during his first year in London. While tickets were difficult to obtain, he was able to see some bicycling and running events that began and ended at nearby Buckingham Palace.

When it's all said and done, though, Nelson is in London to do a job. As has been the case throughout his career, he is singularly focused on doing his absolute best.

"There are huge opportunities around the world in oil and gas. For young people interested in earth science, exploration and business, there is no better industry," he states. "We always need new ideas on how to find and extract hydrocarbons in environmentally safe ways. People need to know that this is a business of integrity and character. We want to do things right and build on our success for the next generation." ■

A PLATFORM FOR GROWTH

July 25, 2012, marked a milestone for Mark Schumacher. On that day, Titan Operating L.L.C., the privately held independent oil and gas company in Fort Worth he started with three partners in 2008, merged with Atlas Resource Partners, L.P., a publicly traded,

Pennsylvania-based company that owns an interest in more than 8,500 producing natural gas and oil wells in Appalachia and Colorado.

Four years after Titan Operating was founded, says Schumacher, the company's



Mark Schumacher

president and a 1984 OU petroleum engineering graduate, it reached the point at which it had developed its existing assets in north Texas and was looking for new opportunities.

Titan was approached by Atlas, which was acquiring Barnett Shale assets in the area and was looking to expand into nearby basins.

Atlas wasn't just looking to purchase assets, however. The company also wanted an operating team for the area. As part of the merger, Atlas brought on Schumacher as executive vice president in charge of the Fort Worth office, plus the other 12 members of Titan's Fort Worth team. Under Schumacher's leadership, that office now is responsible for growing Atlas west of the Mississippi River.

"The transition has been very positive," he says. "Atlas's chairman and CEO have been very enthusiastic about the Titan team and have incorporated us into the Atlas family by involving us in strategic meetings and decisions prior to closing. It really has been a merger of two 'families.'"



Brad Johnson, with his wife, Jeanette, and younger son Cameron, on an Egyptian pyramid before the January 2011 revolution. Jeanette holds a bachelor of science degree in occupational therapy from OU. Cameron is an OU sophomore majoring in energy management.

LIVING THROUGH A REVOLUTION

Brad Johnson (B.S. geology, 1981) didn't expect to live through a revolution when he became geological manager for Apache Corp.'s Cairo, Egypt, office in August 2009.

But some 18 months later, in January 2011, that's what happened.

"There had just been a revolution in Tunisia," recalls Johnson. "On Tuesday, Jan. 25, Egypt's youth, aided by social networking, started a protest to stimulate interest in overthrowing the government like what had happened in Tunisia. The Egyptian people had been oppressed for 30 years under President Hosni Mubarak and wanted freedom."

The protest began in Cairo's Tahrir Square and escalated dramatically through the week, not only in Cairo but throughout Egypt. "The police got more involved to try to stop it. The national government and minister of interior got involved," Johnson says. "By Friday, Jan. 28, the government had cut off Internet and cellphone activity nationwide and had limited what was broadcast on television. The authorities were doing their best to control the way people communicated about the uprising. But Friday also

is the Muslim's weekly holy day and everybody goes to the mosques, so people were gathering at mosques around the country and keeping the momentum of the uprising going."

Despite the political chaos and unrest during the early days of the uprising, Apache was able to keep operations moving forward. But the turning point for Johnson and his colleagues came Saturday, Jan. 29, when the Egyptian minister of interior pulled all police off the streets.

"Prior to that point, emergency law was in place and the police were everywhere and armed, which kept everybody in check," he says. "When they were removed, protesters broke into prisons and police stations and took guns and other weapons. It had been illegal to have a gun and then all of a sudden there were all these guns on the street. People were firing in the air and starting to loot shops and businesses. The military began to move in and it got really violent. That's what the world saw on TV."

Over that weekend, most of the international companies with a presence in Egypt decided to evacuate employees and their families from

the country. "Apache's local staff in Egypt as well as the staff in Houston did a fantastic job of organizing the evacuation with very limited communications. Despite the political chaos and unrest during the early days of the uprising, Apache was able to keep operations moving forward," Johnson states. "They brought in commercial aircraft and we evacuated about 178 people back to Houston."

Egyptian President Mubarek resigned from office less than two weeks later, on Feb. 11. After about two months, Johnson says, Apache employees started to trickle back into Egypt. Others who returned waited until fall when school started.

Johnson and his family returned stateside in February 2012. They currently reside in Tulsa, where Johnson works in the company's regional office that directs mid-continent operations.

The Johnsons enjoyed their time in Egypt and still have a lot of friends there. "Cairo is a big city, but in Maadi, the area in Cairo where we lived and where Apache and most other international companies are located, there was a true sense of a smaller community. It probably was the safest place on the planet when we first moved there," Johnson says. "When the revolution came, it didn't seem that there was anybody in control there for awhile. There were some times when we didn't know what was going to happen, but looking back on it, we were fairly safe."

"Once you live overseas as expats, you realize how grateful you are to live in America and appreciate all the freedoms and protection the U.S. provides," he adds. There's no place like the United States of America. ■



OU alumni in Canada connected with Mewbourne College director of development Ameil Shadid and OU Alumni Association executive director David Hail in June at an alumni breakfast at the Petroleum Club in Calgary, Alberta. From left: Shadid, Calgary-based SIGIT Group Inc. president and CEO John O'Rourke, Terry Dexter (B.S. petroleum engineering, 1958), Leo O'Rourke (B.S. petroleum engineering, 1964), Gordon Robertson (B.S. geology, 1956), Shawn McReavey (B.B.A., 1983), Hail, and SIGIT COO David Smethurst. (Not pictured: J.P. Audas, OU associate vice president for alumni and development)

Money Well Spent

IN THE 18 YEARS since earning a master's degree in geology from OU, Stacey Weltmer has enjoyed a varied career with lots of wonderful opportunities at ExxonMobil Corp. She says her time at OU has a lot to do with that success. Earlier this year, she decided it was time to give something back.

Weltmer, who recently relocated from Houston to Dallas to assume her new position of upstream adviser, made a \$10,000 gift to the ConocoPhillips School of Geology and Geophysics. Seventy-five percent of that gift is being matched 3:1 by her employer, bringing the total value to \$32,500.

"A lot of people give more modest amounts over time, but I hadn't done that and felt I should make up some lost time. OU was very good to me and I'm doing reasonably well and I wanted to give back," Weltmer

explains. "I was able to maximize my gift through ExxonMobil's generous matching gift program, which is one of the many great benefits of working for the company."

Her gift of discretionary funds enables the CPSGG to use the money where it is most needed.

Although she has precious few opportunities to return to Norman, Weltmer maximizes the opportunities to connect with CPSGG faculty and current students through professional meetings and conferences. The interactions evoke fond memories of her years at OU.

"When I was a graduate student I had great professors, great classes and a lot of support, all of which set me up very well for a successful career," she recalls. "I also enjoyed the international diversity among my fellow students. We had people from all over the globe – Europe, the



Middle East, Africa and China – and we did quite a bit with students from the College of Engineering, some of whom came from South America or Indonesia. Working side-by-side with people from different cultures added richness to my overall academic experience."

She stays in touch with some of those former classmates and encourages them, too, to give back to their *alma mater*. "Many of these folks have done very well in their careers," Weltmer says. "To them I would say: If you can, give to OU. It is money well spent." ■

COLLEGE NAMES 2012 DISTINGUISHED SERVICE, ALUMNI AWARD RECIPIENTS

THE MEWBOURNE COLLEGE has announced the recipients of the 2012 Distinguished Service Award and Distinguished Alumni Award.

The Becker family, the late Clyde Becker Sr. and his wife, Anita, Phillip Becker (brother), David Becker (nephew), Clyde Becker Jr. (son) and wife Pam, Sally (daughter) and husband Howard Wells will be honored with the Distinguished Service Award. Clyde Becker Sr. earned a bachelor's degree in geology in 1951 and later founded Becker Oil Co.. He and his wife also established the Clyde and Anita Becker Foundation. The family's generous support of the college includes an endowed faculty chair, an endowed scholarship and a major gift to the Bartell Field Camp.

Bob Davis (B.S. aerospace engineering, 1971), Schlumberger ambassador to OU, also will receive the Distinguished Service Award. Davis' efforts through Schlumberger have allowed the college to construct a first-rate computing laboratory that is vital to educating students in advanced computing capabilities for hydrocarbon exploration and development.

This year's Distinguished Alumni Award recipients are Chris Cheatwood (B.S. geology, 1984), Vance Hall (B.S. geology, 1972), Thomas McCasland Jr. (B.S. petroleum engineering, 1956), Jere McKenny (B.S. and M.S. geological engineering, 1951 and 1953, respectively), Bill Z. Parker (B.S. petroleum engineering, 1970), and Robert Thomas (B.S. geological engineering, 1951) and Sally Rahe Thomas (B.S. geology, 1956).

The Distinguished Service Award was established in 2008 and is awarded every other year. Selection criteria includes, but is not limited to, past or ongoing involvement with the college in the form of classroom speaking; advisory board membership; student mentoring, internships, hiring and other classroom or college advocacy; financial contributions; and support of student activities.

Also established in 2008, the Distinguished Alumni Award is presented every other year. Selection criteria includes, but is not limited to, academic, scientific or practical contributions in the recipient's chosen field, achievements in business and ongoing involvement with the college.

This year's award recipients will be honored at the college's Nov. 9 Board of Visitors dinner. ■

DIAGNOSING AND MITIGATING BIOCORROSION FROM PAGE 8

"We're not there yet," he adds, "but so far our progress is very promising."

In the meantime, he says, Biocorrosion Center researchers continue to work toward more routine sorts of scientific understanding and helping the oil and gas industry develop best practices.

"As a university center, we feel we can bring some basic science to help understand and combat the problem of biocorrosion," Suflita says. "For some time, there

has been a revolution in modern molecular biology, but the discoveries were slow to be applied to the energy industry. Now many of the techniques we have developed here are being used in the field." ■

RONNIE IRANI FROM PAGE 6

"It's important to bring industry experience back to campus to encourage students to think a certain way, to think big," he explains. "I have found that you are limited only by your own imagination. Many graduates of the Mewbourne College are very successful people in industry. We need to keep that going." One way to do that is by creating more opportunities and venues for industry and students to interact. During his term as Board of Visitors chairman, Irani plans to work closely with Dean Larry Grillot to find new ways to bring industry to campus and take students to companies. By expanding those opportunities, he says, students can learn what industry needs and industry can appreciate what students have to offer.

Irani also hopes to continue his work with international students in the college and throughout the campus.

"OU is a great place for international students. My experience was extremely positive," he remembers. "There were lots of student associations that provided mentoring and other assistance. But some international students were intimidated by the different culture and tended sometimes to stay within their groups. I talk to students about getting involved in more campus activities than just international student organizations. It's nice to see when international students break out and do something across the entire campus."

This former international student is quite a role model for them, as he is for all OU students and alumni. Limited, as he says, only by their imaginations. ■

FACILITATING PROBLEM-SOLVING FROM PAGE 25

attended OU on the GI bill after spending four years in the U.S. Navy. By the time he enrolled, he was married and had a small child. "The GI bill was great. I don't know whether I would have finished school without it. I attended classes during the day and worked part time for the university replacing light bulbs at night. But at the beginning of my last year in school, I was contacted by the petroleum and geological engineering school and told that I had been awarded a scholarship from the Pegasus Division of Mobil. I was shocked. I hadn't applied for the scholarship, but was so happy to have gotten it. It was a lot more than the \$160 a month I was getting from the GI bill."

To date, 16 MPGE students have been awarded the Sleeper scholarship. "We have received many excellent letters from students saying how much the scholarship has meant to them," Sleeper says.

Helping to educate future industry professionals, whether through scholarships or learning spaces, means a lot to Sleeper. "It helps get smart, competent people into the petroleum business, which was always good to me," he says. ■

SUPPORTING THE MEWBOURNE COLLEGE OF EARTH AND ENERGY

Since 2006, the college has experienced tremendous growth in its student population. Our graduates are highly sought after by industry for internships and full-time positions. As we look to engage our alumni and friends of the college, there are many areas in which your support can ensure the long-term success of the college and its students and faculty. They include:

ANNUAL FUND

To ensure that we reach all alumni in meaningful ways throughout the year and provide them with an opportunity to support both the college and their school, we have restructured our Annual Fund. This will give Dean Grillot and the school directors a chance to communicate their needs via a targeted annual message and tailored stewardship with the intent of increasing participation. The new Annual Fund Calendar has been expanded to include communications to alumni in spring, summer and fall.

PROGRAM SUPPORT

Program support to a dean or director is like investment capital to an entrepreneur. Leadership annual gifts help ease the strain on our labs, send students to conferences and competitions, and provide resources to make targeted investments in projects and programs that might otherwise not get support. Leadership donors are a group of alumni and friends who pledge \$5,000 or more per year to the Dean's Excellence Fund.

ON THE ROAD AGAIN WITH DEAN GRILLOT

Beginning in fall 2012, Dean Grillot will be hitting the road to meet with MCEE alumni and friends to discuss the future of the college. He's looking for your input, guidance and support as the college looks forward after completing the Capital Campaign. Dean Grillot and staff will be in Oklahoma City, Tulsa, Dallas, Fort Worth, Denver, Houston and Midland, Texas, over the next year and hope you will take the time to join us. Our alumni, friends and corporate partners are critical to the college's success. We look forward to seeing you "on the road."

The college is truly grateful for its alumni and friends, whose passion, support and dedication have helped us to be a leader in the field of energy education.

2012 WORKSHOPS, MEETINGS, CONFERENCES AND FIELD TRIPS

Sept. 15-24

The Society for Organic
Petrology
Beijing, China

Sept. 20

2012 Real Deal Mid-
Continent Prospect Expo
Oklahoma City
*Sponsored by Oklahoma
Geological Survey
and Oklahoma City
Geological Society*

Sept. 22-25

American Institute of
Professional Geologists
Annual Meeting
Rapid City, S.D.

Oct. 4

2012 Oklahoma Oil &
Gas Trade Expo
Oklahoma City

Oct. 8-10

Society of Petroleum
Engineers Annual
Technical Conference
and Exhibition
San Antonio, Texas

Oct. 29-31

Interstate Oil and Gas
Compact Commission
2012 Annual Meeting
San Antonio, Texas

Oct. 31

Mississippian Play
Workshop
Norman

Nov. 4-7

Geological Society of
America Annual Meeting
Charlotte, N.C.

Nov. 4-9

Society of Exploration
Geophysicists
International Exhibition
and Annual Meeting
Las Vegas

Nov. 7-8

11th Annual Osage
Minerals Council Oil
and Gas Summit and
Lease Sale
Tulsa

Nov. 9

Mewbourne College
of Earth and Energy
Distinguished Alumni
and Distinguished
Service Awards Dinner
Norman

Dec. 3-7

American Geophysical
Union Fall Meeting
San Francisco

CLASS NOTES

1940s

JAMES ANDERSON (B.S. geological engineering, 1949) is president of James K. Anderson Inc. in Norman. The company has been in existence for 59 years.

JOHN DEMPSEY (B.S. petroleum engineering, 1947) invented radon monitors and created a company, Rod Elec Inc., which sells them worldwide. He is retired from the U.S. Department of Energy.

1950s

MORRIS BLUMENTHAL (B.S. geology, 1953; M.S. geology, 1956) retired after nearly 50 years in the investment business Blumenthal Group Wells Fargo Advisors. He currently is a docent at the National Cowboy Hall of Fame and Western Heritage Museum in Oklahoma City and volunteer at the Oklahoma City National Memorial. During winters in Scottsdale, Ariz., he has volunteered at the Scottsdale Healthcare Shea Medical Center and Musical Instrument Museum in Phoenix. Blumenthal and his wife, Linda, have been married for 56 years and have three children and eight grandchildren.

JOHN BROCK (B.S. geological engineering, 1953) sold his production five years ago and now is "clipping coupons while waiting for the next opportunity." Brock has written a book for young graduates, *Leadership, Life and Career*, which is available as an e-book on amazon.com. He provides hard copies to OU petroleum engineering seniors and the engineering leadership classes during his lectures in the spring and fall. He lives in Tulsa.

DAVID DONOHUE (B.S. petroleum engineering, 1959) founded Boston-based IHRDC 40 years ago. The company now offers competency management, e-Learning series and management programs to the international oil and gas industry. From 1975 to 2007, IHRDC developed underground gas storage fields in New York State, which the company sold in 2007. Donohue lives in Wellesley, Mass.

JAN TUPPER (B.S. geology, 1959) enjoys retirement in Joplin, Mo. A licensed Professional Engineer and Professional Geologist in several states, she retired from Allgeier, Martin & Associates as president in December 2000. Since then, Tupper has worked with several environmental and groundwater organizations and until recently was a member of the Missouri Clean Water Commission.

In February 2012, **GENE VAN DYKE** (B.S. geological engineering, 1950) went back to operating as Van Dyke Energy Co., to look for unconventional in new regions of the world. Van Dyke, who is the company's chairman and CEO, also continues to serve on the board of Vanco Exploration, which is forming into two companies: Lukoil USA and PanAtlantic Exploration. He and his wife, Astrid, live in Houston. They have six children: Karen Nevins, Scott Van Dyke, Janice Van Dyke Walden, Mary Katherine Alonso, Tor Van Dyke and Staffan Van Dyke. This past spring, the Van Dykes visited their niece and her family in Colorado for her twin sons' high school graduation.

1960s

After 30 years of teaching at the University of Vermont, **DAVID BUCKE** (M.S. geology, 1968; Ph.D. geology, 1969) is enjoying retirement with his wife of 54 years, Donna. They live on 13 acres of woods, gardens, pond, and pasture in Essex Junction, Vt. The Buckes continue to travel internationally and domestically. "Finding the old field camp near Cañon City a few years ago brought back fond memories from the summer of 1967 when we helped teach there with

Charlie Harper and lived in one of the faculty cabins with our three daughters. We're anxious to see the new digs," Bucke says.

JOHN SQUAREK (B.S. petroleum engineering, 1966) is president of Oasis Energy Inc. in Lethbridge, Alberta, Canada. He reports he is "almost retired, doing some petroleum resource management, working with one son-in-law developing a new hedge fund, and with my son developing a ranch with a Canadian breed of cattle called Speckle Park. Squarek and his wife, Cynthia, celebrated their 49th wedding anniversary in August 2012 and spent time this past summer travelling in their motor home and fishing.

MIKE WOLFSON (B.S. geology, 1961; M.S. geology, 1963) remains active in the oil industry as partnership manager of Reuben I. Wolfson Properties in Dallas.

1970s

JEFF CALLARD (B.S. petroleum engineering, 1975) is an assistant professor of petroleum engineering at OU. He has two grandchildren, Halen Wood, 3, and Finley Callard, 1.

CLAY HARRIS (B.S. geology, 1972) is president of GDF Suez Gas NA in Houston. He reports that he is looking forward to retirement.

CLASS NOTES

RAY INGLE (B.S. petroleum engineering, 1970) has spent the past 23 years with EOG Resources in Houston. He currently serves as the company's vice president and general manager, Midstream. Ingle and his wife, Becky, have been married for 43 years. They have two children and two grandchildren.

KENT ROGERS (B.S. petroleum engineering, 1979) joined Ultra Petroleum Inc. in Englewood, Colo., in 2005 as senior drilling engineer. In January 2012, he was named the company's vice president, Drilling and Completions. Rogers has more than 32 years of industry experience in all aspects of oil and gas operations in both domestic and international producing basins.

DEBORAH K. SACREY (B.S. geology, 1976) has been elected treasurer of the American Association of Petroleum Geologists for the 2012-13 term. She owns Auburn Energy in Houston.

1980s

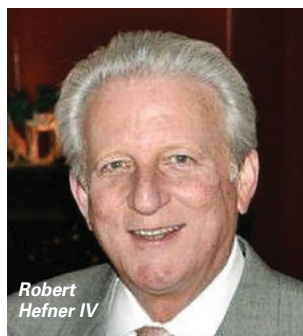
WILLIAM GEORGE (B.S. petroleum engineering, 1981), who retired from the U.S. Air Force as a lieutenant colonel, is project manager, Minerals, for the U.S. Department of the Interior Bureau of Land Management Oklahoma Field Office in Tulsa. He and his wife, Tamara, a 1983 graduate of the OU



BERRY SIMPSON (B.S. petroleum engineering, 1979) was honored by the Society of Petroleum Engineers with the 2011 Public Service Award at SPE's annual technical conference and exhibition in Denver. The SPE Public Service Award recognizes distinguished public service to a country, state, community or the public through excellence in leadership, service or humanitarianism. Simpson is a petroleum engineer with Allego Properties in Midland, Texas. Since 1994, he has worked with a variety of oil and gas producers in Midland, including EGL Resources, BP, Great Western, Beach Exploration, Chevron and Mobil. He previously worked for 15 years as the district engineer for Amerada Hess. Simpson has served as an adjunct professor at Midland College, teaching oil and gas production classes, and has been a member of the Texas State Board of Professional Engineers since 1986. He served on the Midland City Council from 1995 to 2007, including two terms as mayor pro tem. He has authored essays, numerous magazine articles and two books.

College of Allied Health, recently celebrated their 30th wedding anniversary. Their daughter, Melinda, graduated in 2011 from the OU College of Allied Health and plans to begin a master's program in speech and language pathology at the OU Health Sciences Center this fall.

ROBERT HEFNER IV (B.S. geology, 1980) recently accepted a position with Continental Resources as senior geophysicist. He and his wife, Carol, have four children: Robert V is following in his father's and grandfathers' footsteps in the energy industry after graduating in 2008 from OU with a degree in entrepreneurship and venture management. Robert V's wife, Kellie is an OU alumna; Iman is married to a wonderful naval officer, Zach Berglan, and they have two sons, Tristan and Beckett; Alexis graduated from college with



a degree in finance and economics and is joining the BOK Accelerated Career Program; Gabrielle is a high school junior and looking forward to joining the OU family and the fourth generation to attend the university.

BRAD JOHNSON (B.S. geology, 1981) returned in February 2012 from three years in the Cairo, Egypt, office of Apache Corp. He worked the country's western desert and reports he lived through the 2011 Egyptian revolution (see p. 30 for his story). Johnson is safely back in Apache's Tulsa office.

ALAN KILLION (B.S. petroleum engineering, 1981) began 2012 with WPX Energy, the new independent oil and gas company spun off from Williams. He serves as director, West Region.

KEN KIRBY (B.S. petroleum engineering, 1982) is senior vice president Eastern Operations for XTO Energy Inc. in Tyler, Texas. His son, Bryan, is an OU freshman who plans to major in petroleum engineering.

EVELYN MEDVIN (B.S. geology, 1980) is vice president of Core Laboratories in Houston.

SHARON RECTOR (B.S. geology, 1985) is principal of Strategic Energy Associates in Houston.

GEORGE SANTILLAN (B.S. petroleum engineering, 1986) recently was promoted from senior director to vice president of engineering

CLASS NOTES

at Kinnser Software Inc. in Austin, Texas. He and his wife of 23 years have four children, two of whom currently attend OU.

THOMAS SCOTT (M.S. geology, 1985) recently was promoted to senior vice president, Quantitative Risk Assessment, at Dallas-based DeGolyer and MacNaughton. He is project leader for global prospective resources appraisals. DeGolyer and MacNaughton is the world's largest and oldest petroleum engineering consulting firm.

JERRY SIMMONS (B.S., geology, 1981) is executive director of the National Association of Royalty Owners in Tulsa.

CASIDY WARD (B.S. petroleum engineering, 1983) and her husband own Hidden Ridge Vineyard in the Mayacamas Mountains of Sonoma County, Calif., where they produce single-vineyard, mountain-grown Cabernet Sauvignon.

2000s

AHMED ALAHDAL (Ph.D. geophysics, 2006) lives in Plano, Texas, where he is a geophysical adviser at Petrotel Inc.

KEVIN BOOK (B.S. petroleum engineering, 2000) is vice president, International Operations, at Compressco in Oklahoma City. He returned to

Oklahoma in 2008 after spending six years in Calgary, Alberta, Canada. He lives in Edmond.

RODRIGO BORDA (M.S. natural gas engineering and management, 2011), is a drilling engineer at BP America Inc. in Houston. He previously worked in eastern Oklahoma delivering safe and compliant wells and now is focused on project development for emerging assets.

HYUN CHO (Ph.D. petroleum engineering, 2001) is vice president of SK Corp. in Houston. His expertise is liquified natural gas process technology.

GAVIN FLUKE (B.S. petroleum engineering, 2008) recently joined the Anadarko Petroleum Corp. Gulf of Mexico drilling group as a senior drilling engineer. He and his wife, Suzanne, welcomed daughter Holly Marie to the family in February 2012. They live in The Woodlands, Texas.

SARFRAZ JOKHIO (M.S. petroleum engineering, 1997; Ph.D. petroleum engineering, 2002) is a senior reservoir engineer at Saudi Arabian Oil Co. in Dhahran, Saudi Arabia, where operations run 24/7. "Such a high level of activity brings a wide range of experience," Jokhio reports. "As a reservoir management engineer my role is crucial in the field management and development planning.

Coordinating with the reservoir evaluation, geology, facilities planning, production and drilling engineering departments provides deep insight in every aspect of the oilfield operations and management."

MEREDITH MIRANDA (B.S. petroleum engineering, 2009), is a senior reservoir engineer at ConocoPhillips in Houston. She spent three years working on the Eagle Ford Implementation team before recently moving to Subsurface Technology Applied Reservoir Engineering group. She married Kyle Meier June 9, 2012, in Houston.

SARA REINHART (B.S. petroleum engineering, 2011) is a production engineer at Devon Energy Corp.

ANDREW RICH (M.S. geology, 2002) recently returned to Houston, where he is a senior geologist at Oxy USA.

ABBY STRICKLAND (B.S. petroleum engineering, 2011) is a field engineer for Chesapeake Energy in Shreveport, La. She and Mark Ballard (B.S. petroleum engineering, 2010), a production engineer at Continental Resources in Oklahoma City, wed June 23, 2012 in Guthrie. They make their home in Edmond.

MITCHELL SULLIVAN (B.S. petroleum geology, 2007)

is a geologist with Kaiser Francis Oil Co. in Tulsa.

MARCO ANTONIO TEZEN (B.S. petroleum engineering, 2002) has worked for Halliburton Energy Services for the past six years. After four years as a field engineer, he currently serves the company as a technical instructor, teaching new engineers about cementing oil wells. Tezen and his wife, Karen, live in Duncan with their four children.

After completing a graduate program at the Colorado School of Mines in 2008, **DON WALKER** (B.S. petroleum geology, 2004) joined ConocoPhillips in Houston, where he has been working on unconventional resource projects around the world, especially Poland and Australia. In January 2012, Walker was promoted to senior geologist for Global Unconventional Resources. He recently accepted a transfer with ConocoPhillips to Aberdeen, Scotland, where he will be a development geologist in the East Irish Sea and southern North Sea.

KAREN SCHMUHL WALKER (B.S. petroleum engineering, 2006) and **JOSH WALKER** (B.S. petroleum engineering, 2001) were married in May 2011 and at publication time were expecting their first child, a girl. Karen is an asset manager with the Chesapeake Energy Corp., assigned to the Oklahoma City-based Eagle Ford production group.

SIMULATING SHALE GAS PRODUCTION FROM PAGE 11

then, the other five companies joined the consortium.

To make the simulator easily adoptable by industry, the team is developing it in modular form so that necessary modifications can be incorporated into currently available simulator formulations.

"If the industry is measuring the productivity in the field," Civan says, "we should be able to match that productivity with our model after these modifications. When we are satisfied with performance of the modifications, we will release the adapted simulator and a report documenting its development, validation and reliability." He expects that to be completed by the end of 2013.

In the process, as more is learned about shales, they hope to be able to build improved predictive tools for accurate unconventional reservoir management. ■

FULFILLING THE OGS MISSION FROM PAGE 17

OU a leading group for groundwater investigations and scientific research in the state.

Brittany Pritchett joined OGS as a petroleum geologist in July 2012. She earned B.S. and M. S. degrees in geology from OU in 2010 and 2012, respectively. Her master's thesis focused on the kinetics of jarosite, a ferric sulfate mineral, within eutectic brines and implications for jarosite on Mars. Pritchett's research interests include subsurface geology, clay mineralogy, physical geochemistry, well log interpretations and formation evaluations. Her current projects include creating a master field trip guide of Oklahoma, focusing on reservoir and other sedimentary outcrops. Pritchett also is the manager of the Devon X-Ray Diffraction Laboratory at OU.

Richard Tarver is the data librarian and lab/research technician at the Oklahoma Petroleum Information Center. He has nearly a decade of archival collections management, database construction and digital imaging experience at OU. One of his principal objectives at OGS is to develop and enhance digital catalogs for the survey's well data holdings and to foster the digitization of data sets within the OGS collections. Tarver holds a B. A. degree in anthropology from OU and is pursuing a M.A. degree in bio-archaeology, also at OU. ■



Brittany Pritchett



Richard Tarver

SHARING A PASSION FOR GEOLOGY FROM PAGE 15

the students is focusing on the rocks in Oklahoma and Kansas; the other is going to start her master's work on the rocks in France. There are a lot of similarities between the sediments in both areas. If you look at a map and put those geographical areas together, you see that they are at about the same location around the equator. Oklahoma is at the western part of the equator and France at the eastern, so we're comparing the west and east sides. We've been researching the hypothesis that there were glaciers at the equator (at some elevation. Dr. Megan Elwood Madden, a geochemist in our department, and I wrote a proposal that took us to Antarctica, which is extremely cold and dry, to look at the sediments there. We're trying to examine the rocks sedimentologically and geochemically to see if we can detect signals/signatures of glaciations. We're hoping to go to some other places with extreme climates – Puerto Rico (hot/wet) Southern California's Mohave Desert (hot/dry) and Alaska or Norway (cold/wet) to compare the four end points of the climate spectrum. We may be able to come up with some

ways in which we can read climate better from sedimentary rocks.

E&E: How do you share your passion for geology with the scientists of tomorrow?

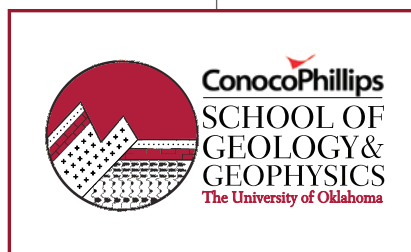
MS: I really enjoy teaching the introduction to geology course because it's an opportunity to really engage students and show them how diverse geology is. For a lot of kids, geology is just rocks, minerals and fossils. And that's what gets them excited. But in my science, I'm more interested by the chemistry in the lake water for the fish at the bottom, or the other types of interactions with earth systems. That's an example of what geology also encompasses and I want to show them that. When we first got here part of my job description was to run summer camps. About five years ago, the ExxonMobil Bernard Harris Summer Science Camp, which at that time was

only at the University of Houston, was looking to expand. They were interested in OU doing a camp, so we wrote a proposal. It's competitive and we write a proposal every year. This year, we had 48 middle-school students from across Oklahoma at the two-week camp, where

we presented a "whole earth" approach to science that we call Earth Cycles. We try to incorporate all of STEM – science, technology, engineering and mathematics. [Physician and

former NASA astronaut] Bernard Harris has come to OU every year to talk with the students and participate in an activity with them. To date, about 240 students have come through the OU program. We hold reunions twice a year and try to keep track of them to see how many go to college.

LS: Our mission is to educate student by student. Nothing is more gratifying than getting a young person fired up about science and seeing the light go on. ■





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